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ON FLOODING AFTER DELIVERY.

BY THE SAME AUTHOR,

8vo, *LIMP CLOTH, WITH COLOURED PLATES,*

*PRICE 2s. 6d.,*

THE MAMMARY SIGNS OF PREGNANCY AND OF  
RECENT DELIVERY.

ON  
FLOODING AFTER DELIVERY

AND ITS  
SCIENTIFIC TREATMENT,

WITH A SPECIAL CHAPTER

ON THE PREVENTIVE TREATMENT.

BY

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TO THE MIDLAND MEDICAL SOCIETY.

*"Nec Temere, nec Timide."*

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MDCCLXV.



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TO

ARTHUR FARRE, M.D., F.R.S.,

PHYSICIAN-ACCOUCHEUR TO H.R.H. THE PRINCESS OF WALES;

IN ADMIRATION OF

THOSE HIGH AND VARIED ATTAINMENTS

WHICH HAVE PLACED HIM

IN HIS PRESENT DISTINGUISHED POSITION,

AND

IN GRATEFUL ACKNOWLEDGMENT OF

INSTRUCTION RECEIVED,

*This Work*

IS RESPECTFULLY INSCRIBED

BY HIS FORMER PUPIL, AND HOSPITAL ASSISTANT,

THE AUTHOR.



## P R E F A C E .

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THESE pages first appeared in the columns of one of the weekly medical periodicals. They have since undergone thorough revision, and many notes and illustrative cases have been added.

The views and opinions enunciated therein, whether original or not, are founded for the most part on the results of my own experience, obtained from obstetric appointments held at

King's College Hospital, London; the General Dispensary and Queen's Hospital, of this town; and also from private practice.

Flooding after delivery is an accident which can be prevented in many cases; I particularly wish, therefore, to draw the attention of students and practitioners to the chapter on Preventive Treatment; and, if they desire to reduce the frequency of the complication to a minimum in their practice, I can confidently assert that they will succeed by following out the precautions considered in that chapter.

The various causes of flooding after labour have been considered separately, with their diagnosis and special treatment. Illustrative

cases have been appended to all, except to a few of the rarer causes of hæmorrhage.

I cannot conclude without expressing my thanks to Dr. Graily Hewitt, for the readiness with which he replied to my letters on the subject of Transfusion; to Dr. Meadows, for many valuable suggestions; and to Mr. Melson, of Birmingham, for his able assistance in correcting the proofs.

92, NEWHALL STREET, BIRMINGHAM,

*October 1, 1865.*



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# FLOODING AFTER DELIVERY.

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## CHAPTER I.

### INTRODUCTION.

OF all complications met with in Midwifery of any importance, Flooding after Delivery is probably the most frequent.\* The frequency with which it occurs varies greatly in the practice of different practitioners, and is not altogether due to mere chance, but in a great measure to the method of conducting labour, and to the precautions employed, both during and after the completion of that process, *e. g.*, the

\* "To two women dead from this cause I have been called in one night."—Blundell : *Lancet*, March 15, 1827.

medical man who is hasty in removing the infant and the placenta, or in leaving the patient afterwards; who never puts on a binder; who confines his patients at the foot of the bed with the mattress turned up; who allows them to be delivered encased in the whole paraphernalia of women's daily dress, will meet with more cases of flooding than the practitioner, who, in a natural case of labour, uses every precaution which, in his opinion, tends to prevent that accident.

Flooding after labour is said to be more common in town than in country practice, and there is no doubt a great deal of truth in this observation, for the debilitating influences of a town life induce that relaxed and cachectic condition of the system which is so unfavourable to the regular and permanent contraction of the uterus. It occurs more frequently amongst the upper than the lower class, from the luxurious and enervating life the former leads. It is more

common in warm than in cold climates, from the excessive heat inducing muscular debility, and increasing the rapidity of the heart's action. This fact teaches us a practical lesson, which we may turn to a satisfactory account in our own country—viz., that the lying-in-room should be kept at a moderate temperature, and the patient not too warmly covered. It is, again, more common in multiparæ than in primiparæ; in the latter, the uterus contracts in a firm and equable manner, as is shewn by the absence of after-pains in the majority of instances after first deliveries.\*

In order to appreciate more fully the great frequency of this complication, we should bear in mind that post-partum hæmorrhage occurs under two different forms. It either comes on immediately after delivery, and flows in such quantity and with such rapidity, that it places

\* Quick labours are liable to be followed by hæmorrhage; women who suffer from menorrhagia generally lose a great deal after their confinements.

the patient's life in imminent danger, and requires urgent and skilfully applied measures for its arrest; or the flow of blood occurs not in a large amount at once, but goes on in a continual drain until it produces all the symptoms of an undue loss of blood. It is not at all uncommon to find on making our first visit to a patient after her confinement, that she "has lost very freely," that she feels low, and that the pulse is more or less quickened. This variety of hæmorrhage is almost ignored by medical men; or they do not consider such cases worthy of the term of post-partum hæmorrhage. It is true that the draining of blood generally begins to cease before the patient can be said to be in actual danger, still there remain the debility and languor resulting from the loss of the vital fluid.

Flooding after labour has been divided into the two following classes: Primary post-partum hæmorrhage, where the flooding has commenced immediately, or within the first hour after

delivery;—Secondary, where the hæmorrhage does not occur until six hours after labour, but within the puerperal month (McClintock). True cases of secondary hæmorrhage are comparatively uncommon. I mean to say, that if a woman goes on for six hours after labour without internal or external hæmorrhage, it is rare for her to have flooding afterwards. In the majority of the so-called cases of secondary hæmorrhage, probably the loss of blood has commenced within the first hour of delivery, but from want of proper attention on the part of the attendant, the flooding has not been discovered until the lapse of some hours, when the symptoms of a severe loss going on draw for the first time the attention of those around her. Such an instance is merely one of prolonged primary hæmorrhage. I will cite a case in point, which occurred in one of the public institutions of this country:

A poor woman had premature labour induced, on account of a tumour of obscure character situated in the recto-vaginal pouch. After delivery was completed, she

was placed in bed, and was considered to be in a fair state. However, on the next day she turned on her knees, for the purpose of emptying the bladder, when a frightful quantity of clots rolled away from her, and before assistance could be obtained she was dead.

No doubt it would be consolatory to term this unfortunate case one of secondary hæmorrhage, but I am afraid it can only be called one of primary internal hæmorrhage, which, through some gross neglect, was allowed to go on unsuspected for so many hours.

Flooding after labour is a distressing accident, inasmuch as it requires time to recover from its effects. We may attend a patient in a most tedious labour, which may possibly end instrumentally; yet in many instances, in twenty-four hours, it would be impossible for any one to tell that that patient had undergone any unusual amount of suffering or danger; on the other hand, in a case of flooding, let us arrest the hæmorrhage, and place the woman's life in comparative safety, there still remain the effects

of the loss, and months generally elapse before they are entirely removed; while in very bad cases, the rosy hue of health is banished from the cheek for ever.

Besides the immediate danger arising from a large loss of blood, flooding renders a woman more liable to severe asthenic diseases, such as uterine phlebitis, phlegmasia dolens, puerperal mania, &c.; and when the already weakened frame is attacked by diseases of so grave a character, it is, of course, less able to bear up against the force of the malady.

It is also one of those obstetric contingencies which require a man to be thoroughly well up to his work, and to possess presence of mind, for as soon as it commences he must act for himself. It is of no use sending for further help unless the attendant does all he can to stop the loss until that assistance arrives. Even the most experienced practitioner often feels anxious as to the result; and if that be the case, what will be the feelings

of the medical attendant who meets with such a case, and does not know how to treat it efficiently? His presence of mind will most likely fail, and he will either do nothing at all, or use but very inefficient means. I have heard of a young practitioner who, meeting with a case of flooding, became so alarmed, that he hurriedly intimated to the relatives that nothing more could be done, and left the house. Another surgeon was immediately called in, just in time to save the patient's life. I have known sad results accrue in four instances, from ignorance, want of presence of mind, and neglect combined. In two cases the placenta was adherent; no attempt was made to remove the after-birth, and of course all other remedies were futile, and while further assistance was being sent for, the women died. In the other two, the presence of clots in the uterus was the cause of the hæmorrhage; no attempt was made to remove them, and both cases ended fatally before proper aid could be obtained.



We have been looking at present only at the dark and gloomy side of the question, but the effect of treatment in post-partum hæmorrhage affords us a ray of consolation sufficiently bright to disperse all the clouds which may have been gathering over the mind of the timid student, or the inexperienced practitioner. Notwithstanding that flooding after labour is a dangerous complication, prompt and scientifically applied treatment is rarely unsuccessful in arresting the hæmorrhage and in saving the patient's life. Before I put into practice the various means which I shall describe when I arrive at the consideration of preventive treatment, I was constantly meeting with cases of undue loss of blood, and, although I have come across some of the worst cases that could occur compatible with life, I have not yet lost a case. I do not say this in a spirit of boasting, but from a desire to show the student that he may be as successful if he chooses. On the one hand I wish his mind

to be thoroughly imbued with the grave importance, both to life and health, of this obstetric complication, that he may see the necessity of making himself master of the subject in all its bearings; on the other hand, I wish him clearly to understand that prompt and efficient treatment will, in the majority of instances, end successfully, that in the hour of danger he may not lose that presence of mind which is so essential to enable him to act with energy and judgment.

Is a second opinion necessary in a case of flooding after labour? Not in slight cases, if the medical man has confidence in himself; but if the loss has been very great, or is very difficult to stop, even an experienced surgeon will find it greatly to his advantage to have another to share the responsibility with him, and this for two reasons: 1. In bad flooding there is always more or less danger of the patient dying hours or days after labour, literally from anæmia.

2. Flooding is often looked upon with suspicion by the friends. They not uncommonly attribute its occurrence to some mismanagement on the part of the medical man. One says, "He took away the afterbirth without waiting for a pain;" another, "He left some of the afterbirth behind." To this last conclusion ignorant women often come, from the raw fleshy appearance of the uterine surface of the healthy placenta. The medical attendant may have paid the best attention to his patient, and have done every thing in a skilful manner, yet the relatives will find out, or rather think they have found out something he did, or left undone, which brought on hæmorrhage. "If Mr. So-and-so had attended her she would not have been in this state," and similar harsh expressions, not at all conducive to the reputation of a medical man, are freely blurted out with all the ignorant spite of which a woman's tongue is capable.

## CHAPTER II.

## SIGNS AND SYMPTOMS.

A MOST essential point in post-partum hæmorrhage is to find out the complication early. I have not the slightest doubt in my own mind that several of the cases of hæmorrhage after delivery, which we read or hear of as having terminated fatally, would have ended satisfactorily, had the attendant taken the complication in hand at an early period of its existence.

Fortunately, we have many and simple means of finding out whether a woman is, or is not, losing more blood than is proper. Sometimes the first indication is the increasing rapidity of the pulse. After labour, the pulse generally decreases in frequency, and if we should find it does not fall, or that having decreased, it gradually

becomes more rapid, we may be sure that the loss of blood is telling unfavourably upon the system. In the majority of cases it is an excellent sign of undue loss of blood.<sup>††</sup> I do not agree with some who think it is sometimes a premonitory symptom of flooding, a forerunner of the coming evil; but I believe that in all cases, whenever a rapid pulse after delivery is connected at all with hæmorrhage, the undue loss of blood is actually going on at the time. A rapid pulse after labour may be due to other causes besides hæmorrhage, for instance, exhaustion, or inflammatory affection of the uterus. The latter is very rare soon after labour, and in exhaustion the pulse is generally frequent, before as well as after delivery; whereas in post-partum hæmorrhage, unless it follow the birth of the child immediately, the pulse first falls, and then gradually increases in frequency. It must be borne in mind that hæmorrhage often occurs after laborious and exhaustive labours, and in

such cases, we require the assistance of other signs to enable us to tell how much of the rapidity of the pulse is due to exhaustion, and how much <sup>is</sup> to the loss of blood. Whatever may be the cause, it is our duty to institute an inquiry, and examine the state of the uterus, and the amount of loss externally.

I met with the following interesting and rare cause of rapidity of the pulse soon after labour:

The pulse was 130. I examined carefully the condition of the uterus externally, and the amount of loss, but the former was well contracted, and the latter was less than usual. The patient did not feel exhausted, and there was certainly no reason why she should, as the labour had been only lingering, and not laborious. The pulse kept up to 130, neither more nor less for two days; when, on the third morning, I found that a large crop of herpes labialis had appeared around the right angle of the lips, and that the pulse had gone down to 100, showing very satisfactorily the cause of its previous abnormal frequency, and at once dispelling my naturally excited fears.

Although in the greater number of instances, hæmorrhage after labour is attended with an

increasing rapidity of the pulse, we may meet (certainly very rarely) with dangerous cases of flooding, in which the pulse is not affected at all. I have met with two instances in which the women were blanched from the large amount of blood lost, and yet the pulse was never more than 80 for the first forty-eight hours. Probably in such cases, the hæmorrhage occurs in the form of a continual draining, and the heart accommodates itself to the gradual loss.

A dilated pupil is another good sign of an undue loss of blood, and it occurs very early. It may be due to pre-existing anæmia or other causes, but its presence ought at once to excite our suspicion.

Another symptom is hurried breathing. During the last stage of labour the patient generally breathes more rapidly, this is due to the unusual exertion and excitement under which she is labouring; but as soon as the delivery is effected, the respiration, unless the patient is very much

exhausted, or is suffering from a serious chest affection, calms down almost immediately. When flooding is going on, the increasing shallowness of the breathing cannot well escape the attention of a watchful practitioner.

We should ask the patient every now and then whether she is losing much; but we ought never to depend upon her answer alone, because very often a woman has not a clear notion as to what should be considered a large loss of blood. I have frequently asked women if they were losing much, and received in answer, "Not more than usual;" "Not more than is proper." On further examination, however, flooding was found actually to be going on; while, in other instances, women have told me that they were losing a great deal, when both the napkin which had been applied to the vulva, and ocular examination, testified to the contrary. In some cases we are first made aware of the existence of flooding by the patient expressing a feeling of



faintness, or that she is "losing a great deal:" while in others we discover the nature of the ease by the noise caused by the expulsion of clots into the bed; in more rare instances, we hear a gurgling sound produced by the uterus first filling with blood, then contracting and expelling its contents.

Another excellent way of ascertaining the amount of loss is by applying a napkin to the vulva. If we should find it in five minutes saturated with blood, we know that the patient cannot long go on losing at the same rate without getting into danger, and three napkins wet through in less than half an hour clearly indicate that the patient is losing too much.

There are two or three fallacies which we must remember when judging the amount of loss from the appearance of the napkin. After the delivery of the placenta, the patient sometimes lies in a mixture consisting of blood and liquor amnii; if we were to apply the napkin to the vulva before

the nurse had wiped away the mess which surrounds the left buttoek and thigh, the napkin would soon become saturated with the fluid previously expelled, and deeeive us with the idea that the patient is flooding when she is not. Then, again, if the napkin does not touch the vulva and thigh, an exeessive draining may go on without the diaper being much, if at all, soiled. For this reason the surgeon should always apply the napkin himself. The first napkins ought to be large so as not only to cover the vulva, but also a large portion of the neighbouring parts.

The most eertain testimony is of eourse ocular examination, and this should always be made if we suspeet flooding. There is no necessity for direct exposure. Compress the uterus with the left hand, and lift up the clothes with the right, just suffieiently to show the baek of the left thigh (I am taking for granted that the patient is lying on her left side), all the blood which eesapes will run across that thigh.

We may be put off our guard even when an ocular examination has been made. If the patient should happen to lie rather forwards towards the belly, the blood, instead of running over the lowermost thigh, will be guided along the groove between the labiæ and nymphæ, forwards over the pubes and abdomen. In such a case the patient may be quite dry behind, while the clothes in front are saturated with blood. Again, if she lies too much towards her back, the blood will gravitate backwards along the groove between the buttocks up the back, and so escape our observation. Whenever we wish, therefore, to ascertain the amount of loss, we should keep the patient perfectly on her side, if anything, lying rather backwards than forwards.

In some cases of internal hæmorrhage, the uterus fills with blood, without much escaping outwardly; but generally, when a large quantity of blood collects in the cavity of the uterus, it is attended by an undue flow externally.

We may sometimes erroneously think that a woman is flooding from the presence of a continual draining, the draining being merely due to the presence of a large clot in the vagina. Press the uterus with the left hand, and turn out the clots with one or two fingers of the right. The draining will of course then cease. By one or other of these means we can readily find out whether the complication exists or not.

If the loss should go on, notwithstanding our attempts to arrest it, the pulse increases in frequency and becomes more and more feeble; the face and lips gradually lose every vestige of colour; faintings occur at short intervals; the patient frequently sighs deeply and yawns; expresses an uncontrollable desire to sleep, and will drop asleep constantly unless kept awake. While flooding is going on the patient should never be allowed to indulge these tendencies:—firstly, because when she is asleep we cannot be certain as to how she is going on; she

may be in a fainting fit, and not merely sleeping; secondly, the brief sleep of life in these cases, as in that brought on by intense cold, may pass quietly into the long sleep of death.

As the loss of the vital fluid progresses, all the above symptoms are intensified, and new ones supervene. The face becomes bedewed with cold perspiration, and the extremities lose their natural heat. The patient says she cannot see, quietly asks for her husband and children, and sinks into a state of apathy, not caring whether she lives or dies. The faintings not only occur more frequently, but are more prolonged, and during the insensible state the jaws are usually spasmodically closed, which is very annoying, as it causes a difficulty in administering the necessary restoratives. When the teeth are tightly clenched, the brandy must be poured through an aperture produced by the loss of one of the teeth, or if they are perfect, through a natural space which exists behind the wisdom teeth.

Vomiting is a symptom which only occurs after the loss of blood has been very great. In the instances in which I have observed vomiting, the patients not only have been flooding for some time, but have imbibed a large quantity of brandy and a dose or two of ergot. May not the vomiting be due in some cases to the mixture of brandy and ergot with its gritty particles? This symptom is very alarming to a young hand; *a priori*, one would think that an attack of vomiting, increasing the depression and loss of blood, would be most serious in its results to a woman almost brought to death's door by hæmorrhage. On the contrary, when moderate, it has a very beneficial effect. Vomiting excites the uterus to contract, and rallies the patient. Whether it would be prudent to bring on vomiting by giving emetics is a question which requires further investigation. We possess so many other remedies, that it would probably seldom be necessary to have recourse to vomiting artificially induced.

In the most dangerous cases, the patient asks for air, complains of a sense of tightness or constriction of the chest, says she cannot breathe, and becomes very restless. A fatal termination is preceded, either by prolonged fainting, or by a few convulsive movements.

About two years ago a surgeon asked me to accompany him to visit a woman who was said to be flooding. She had been confined a week. On our arrival we found her dead. I mention this incident because it affords me an opportunity of describing the position in which she lay ; it was so characteristic of the great restlessness preceding death from flooding. Her legs were widely separated, one arm was tossed in one direction, the other in another, and the body lay obliquely across the bed.

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## CHAPTER III.

## THE PREVENTIVE TREATMENT.

I WISH I could express in words how deeply I am impressed with the importance of employing certain precautions in every case of midwifery, for the purpose of preventing the occurrence of post-partum hæmorrhage. If the assertion were to be made, that half the number of cases of flooding which occur after delivery could be prevented by ordinary care on the part either of the medical man or of the patient, I believe it would be rather below than above the mark. Before I adopted the various precautionary means presently to be described, I was constantly meeting with flooding, whereas now I rarely do. Two or three medical men have told me that they very seldom attend a case



without flooding coming on afterwards; and one of these gentlemen practises in a most healthy rural district. Others, on the contrary, state that in their practice it is quite the exception for flooding to occur. It is impossible to attribute such different results to mere chance. The true explanation is to be found in the mode of attendance. Flooding will be most frequent in the practice of medical men who trust too much to nature, or are, on the contrary, too meddling.

The precautions which we may employ to prevent flooding after delivery should have for their aim more or less the insuring of two points—*perfect rest of body*, and *perfect contraction of the uterus*.

Prec. I.—When a medical man is summoned to attend a case of labour, he should go as soon as possible. It is very important to be present at the birth, that we may be enabled to use various precautions suitable to the case. I have

seen three or four cases of severe hæmorrhage after delivery, occurring before my arrival, which, from the facility I had in each instance in arresting the loss of blood, I believe I could have entirely prevented, had I been present at the birth. One of these cases I shall afterwards relate in greater detail. I will give the chief facts of the case now :

The patient had been confined half an hour or more before my arrival. She was perfectly blanched, and on my asking her how she felt, she said that she could not see. The uterus was as large as if there were still another child. There was only an ounce and a half of brandy in the house ; and while the nurse poured that, neat, down her throat, I passed my hand into the uterus, and found that the placenta was only partially detached. The rest of the cavity of the uterus was filled with clots. On removing them and the placenta, the uterus immediately contracted firmly, and nothing more was required to be done.

In this case the hæmorrhage was set up by the placenta being only partially separated. If the uterus had been followed down as the child was being born and then afterwards commanded by the hand, it is most probable that the placenta would

have become entirely detached in ten or fifteen minutes, so as to have enabled it to be removed by traction, and no hæmorrhage would have occurred.

Prec. II.—The patient ought to be confined in bed. Amongst the upper class this is the usual mode of delivery; but the poorer class will almost invariably be confined with all their day-clothes on, at the foot of the bed, with the mattress turned up. They raise the three following arguments for being confined in that manner. 1st, They consider the stays are a great support and assistance. The only feeling of support which can be derived from stays must be from mere habit, from constantly wearing them; and against their use we know that they impede respiration, which is already rendered difficult from the pressure of the diaphragm upwards by the displaced abdominal viscera. 2nd, They require some fixed point against which they can place their feet, in order

to bear down, and another fixed point to which they can attach a towel to pull at, and thus further assist nature's efforts. Such extraordinary efforts, as may be effected by these means, are perfectly unnecessary, and in some instances actually injurious; many a ruptured perinæum has been produced by straining too violently during the last stage of labour. Any straining, if necessary, can be effected in bed by holding the hands of the nurse, shutting the mouth, and bearing down. 3rd, The danger of messing the sheets when confined in bed. This is the most forcible argument these patients possess; for if the bed-clothes are not properly protected, they are liable to become soiled by liquor amnii and blood. The "making of the bed," as it is termed, should be superintended by the surgeon, especially when attending upon the poor, for the nurses in that class, are so ignorant as not even to know how to manage this simple affair properly. Many

of them place the oil-cloth, &c., in the centre of the bed, and thus not only are the manipulations of the accoucheur rendered more awkward, but any extra amount of discharge runs over, and wets that part of the sheet which lies between the oil-cloth and the edge of the bed. Whatever is placed on the bed for its protection ought to have a good portion hanging over the edge, and the patient should place her buttocks as near to the edge as possible, in order that if there should happen to be any unusual amount of discharge it may run off.

The patient's dress may consist of either the ordinary night-clothes, or, as I prefer, a clean chemise and night dress well drawn up round the waist, the rest of the body being covered by a flannel petticoat and a single old skirt, and the feet enveloped in thick woollen stockings. It is better to let the patient stand or sit until labour has far advanced, unless she is exhausted from loss of sleep or from

the length of the first stage ; but she should be dressed ready for some time before she lies down, especially if we learn that the previous labours have been quick, or if we find the os dilating rapidly. The great advantage of being confined in bed and dressed in the manner stated is, that perfect rest is ensured after the termination of labour. I have several times noticed, in women who had been confined at the foot of the bed, the uterus well contracted, and no hæmorrhage while they remained there ; but after all their day-clothes had been removed and clean things put on, and they had been literally dragged into bed, that the uterus became large and tender, and hæmorrhage commenced, which, in some instances, could not be arrested without the introduction of the hand and the removal of clots.

Prec. III.—A small tablecloth, or if there are two binders, one of them should be adjusted before the termination of labour ; in fact, as soon

as the patient is undressed. It ought to be passed (the patient standing up) once round the abdomen outside the skirt, and made to reach a little above the fundus of the uterus and a little below the hips, and then pinned four or five times on the *right side* of the patient. It should not be drawn tight except in cases where the uterus is very much anteverted from great flaccidity of the abdominal walls, as it would prevent the fundus from taking the natural forward movement during a contraction. I used to put on the binder after delivery, but to adjust it properly while in the recumbent posture requires a considerable amount of exertion on the part of the mother, as some difficulty is generally found in getting the lower edge well under the hips ; and sometimes it gets twisted, then it has to be removed and re-applied. There are many advantages in adjusting the binder before delivery :

- 1, Perfect rest of body is ensured.
- 2, The binder can be more easily and more equally applied.
- 3, By

pinning it on the right side of the body, as the patient lies on the left, we are enabled to tighten or loosen it at pleasure.

Pre. IV.—The nurse should be instructed to tell the patient to empty her bladder frequently. The more cases of midwifery I attend, the more I feel convinced that a distended bladder is not an uncommon cause of post-partum hæmorrhage. I shall enter more fully into the question of distension of the bladder when I come to consider the causes and their treatment.

Pre. V.—When the patient lies down, care ought to be taken that the head and trunk are placed higher than the pelvis, especially just before the birth of the child; otherwise hæmorrhage is liable to be set up by the blood gravitating to the upper part of the vagina, and there forming a clot, instead of passing away out of the vulva. The vaginal clot obstructs the escape of blood from the uterus, and affords time for coagulation in the cavity of that organ. Clots



in the uterus are a most common cause of post-partum hæmorrhage.

Prec. VI.—The character of the previous labours, and of the present one, should be carefully studied. For example, if we find from inquiry that the patient is a *flooder*,\* a dose of ergot should be administered as soon as the child's head is born, and another as soon as the birth of the child is completed; or if we notice during the present labour that the delivery of the child is being effected by pains which occur at long intervals, we may be pretty sure that the uterus will act as sluggishly after delivery, and that hæmorrhage will arise from inertia. Ergot should be given in the same way in these cases as in those in which flooding occurs after every confinement, as the cause is the same in both.

Prec. VII.—When the head is born, the nurse should be directed to place her right hand over the fundus of the uterus, and to *follow* the

\* A term applied to women who flood after every confinement.

uterus down as she feels it descend during the expulsion of the infant. This assists in preventing a flaccid condition of the uterus.

Prec. VIII.—The child ought to be allowed to be expelled by the efforts of nature, unless its life is in danger; the only artificial aid generally necessary, is to direct the head and shoulders forward. There is usually an interval before the uterus begins to contract again, whenever it parts with any considerable portion of its contents suddenly, as when the liquor amnii is discharged, or the head is expelled, and when the rest of the body is born. If we pull away the child without waiting for a pain, the uterus is liable to be left large and uncontracted; and should a portion of the placenta become detached before the uterus contracts, hæmorrhage will be an inevitable consequence.

Prec. IX.—When a woman suffers from cough during labour, it is a good plan to give her fifteen drops of Battley's solution of opium

(unless there should be any symptom present contraindicating its use) immediately on delivery, and to repeat the dose in half an hour if the cough be not relieved. I have noticed that if a patient suffers from cough during labour, it is generally worse for two or three hours after delivery. The loss of blood is nearly always free in such cases, from the violent jerking and straining to which the cough gives rise. The cough, in the greater number of instances, is merely sympathetic; very little mucus is secreted, and although it is troublesome for a few hours after the termination of labour, it generally disappears altogether in a day or two.

Prec. X.—Having separated the child from the mother, unpin the binder, which, as the patient is lying on her left side, can be effected without the slightest movement on her part; then pass the hand next to the skin, in order to ascertain the condition of the uterus. If there be no evidence of the existence of a

second child, and the uterus be felt *contracted* upon the placenta, repin the binder firmly. The tightening of the binder after the birth of the child is necessary, because it has now become quite loose, and it acts beneficially in stimulating the uterus to contract. If the uterus should be found *large and flabby*, we ought not to trust to the pressure of the binder. In such a case it is better to leave it unfastened, and to place the hand next to the skin, over the fundus of the uterus. No kneading action should be used with the hand, because it may induce irregular contraction, or separate only a portion of the placenta, and bring on severe hæmorrhage. The pressure should be but a little more than the weight of the hand, and equable over as large a surface of the fundus as possible. The slight pressure of the hand on the uterus, before the detachment of the placenta, resembles, in utility, the slight tightening of the reins in the driving of a spirited horse. The horse

knows well enough then that there is some one looking after him, and he is quiet; but only let him find out, from the perfect slackness of the reins, that he is without a driver, and he at once bolts away. So in the case of the uterus, the slight pressure of the hand lets the uterus know, as it were, that it is under judicious restraint. Slight and equable pressure on the uterus is as useful in the prevention of hæmorrhage as strong pressure is in the treatment of flooding.

Prec. XI.—The delivery of the placenta is the most important and anxious part of natural labour. Women regard that accoucheur the most skilful who brings the child into the world most quickly; whereas, if they knew better, they would judge his skill rather by the way he managed the delivery of the placenta than that of the child. Many women have had their cheeks blanched, their constitutions more or less injured, or have lost their

lives, from mere want of care on the part of the attendant, in the management of the delivery of the placenta.

The expulsion of the placenta may be effected by the unaided efforts of the uterus, or with manual assistance. If the uterus should expel the placenta immediately or shortly after delivery, we may rest pretty satisfied that the patient will not flood. No doubt if we were to wait long enough, the uterus would expel the placenta in the greater number of cases; but experience has taught us that allowing the placenta to remain in the uterus for hours is by no means safe. The uterus, soon after labour, usually contracts with just sufficient force to detach the placenta, partially or entirely, but not to expel it. While the placenta remains attached in its whole extent, the patient is safe from hæmorrhage; not so when it becomes detached; it then acts as a foreign body. It prevents the uterus from con-

tracting to its minimum, which is Nature's great and chief means for arresting the flow of blood through the uterine vessels. I do not wish it for a moment to be understood that I recommend the hasty removal of the placenta. To remove it too hastily is quite as bad as to remove it too tardily. The knowing when to take it away, and when to leave it alone, is a matter which experience alone can teach.

After the patient has complained of two or three "pinching pains" in the hypogastric region, we should try and ascertain whether the placenta has become detached or not. If the binder has been tightened immediately after labour, the first thing is to loosen it, to enable the left hand to be placed over the uterus to keep it steady. On making a vaginal examination with the right hand, if the placenta be detached, we readily feel the insertion of the cord, and a considerable portion of the placenta around, and on removing the finger it is generally observed to be

covered with blood. The portion of the cord lying externally is also usually flaccid. If the placenta be not detached, the cord will be felt passing into the cavity of the uterus, but no portion of the placenta will be within reach; and the vessels of the cord will be noticed distended with blood. The above are the signs mentioned in obstetric works; nevertheless, they are not to be taken as infallible; for instance, the placenta may be undetached, and yet the insertion of the cord, and a portion of the afterbirth may be felt, either from the uterus being firmly contracted upon the placenta, and bringing them within reach of the finger, or from the afterbirth being situated unusually low. Again, the placenta may be detached, and yet no blood be noticed on the finger, on account of its collecting in the bag of membranes;—the vessels of the cord may be distended from the uterus remaining firmly contracted on the placenta, and keeping the



blood confined with them;—we may find great difficulty in reaching the placenta, or may not feel it at all from its lying loose in the upper part of the uterus, or from a long vagina. These are not imaginary fallacies; each one has come under my observation. In the great majority of cases, however, if we feel the insertion of the cord, and a considerable portion of the placenta besides, and observe the finger covered with blood, and the cord flaccid, we shall be correct in considering the placenta detached.

There is a great diversity of opinion amongst medical men as to how long a time should be allowed to elapse after delivery before measures are taken to remove the placenta. Some remove it almost immediately; others never think of taking it away before at least a quarter of an hour after labour. In my own practice I have no fixed time at all. As soon as I am sure it is detached I remove it. We know that sometimes

the uterus expels the child and placenta together, and with excellent result; and there is no reason, if the placenta be detached by the same pain that expelled the child, why we should not then remove it at once. One important precaution is to remove the placenta *during uterine contraction*. If a placenta, lying loose in the cavity of the uterus, be thus removed a few minutes after labour, hæmorrhage will be less liable to follow than if it were left alone for half an hour, and then taken away in the absence of uterine contraction. The practice of some who, as a rule, remove the placenta early, not caring whether it be detached or not, is very reprehensible. We must first feel certain that the placenta is lying loose in the uterine cavity, or in the vagina; and next, from the patient's complaining, or by application of the hand externally, that the uterus is contracting; then we may remove it. If we attend to these two points, we need never mind the time.

We may remove a detached placenta either by

application of strong pressure to the uterus externally, or by traction on the cord.\* By grasping as much of the fundus and right side of the uterus as possible, and then squeezing and pressing it downwards, we sometimes succeed in pushing the placenta into the bed. The expulsion is caused partly by the strong compression employed, and partly by the uterine contraction set up by the pressure. I have not found it answer very often, perhaps from my being afraid to use sufficient force.

The removal of the placenta by traction is performed as follows:—Place the nurse's hand over the fundus of the uterus, and tell her to press downwards, then twist the cord once or twice round one of the fingers of the left hand, and pass the first finger of the right hand to the insertion of the cord into the placenta. Gentle and slow traction should be applied by the left

\* I believe the placenta may be removed in the safest manner by using both means together—pressure on the uterus externally, and traction on the cord.

hand (the patient bearing down at the same time); while the root of the placenta or the placenta itself is *pressed back* towards the sacrum with the right hand. As soon as the placenta descends to the floor of the perinæum, the vagina generally expels it without any further traction, and it is best to allow it to do so. Traction of the cord being no longer required, place the left hand close to the vulva for the placenta to drop into, and pass the index finger of the right hand into the vagina as high as possible, in order to draw and coax down the membranes, which are generally hanging from the lower part of the uterus, to use one of Gooch's similes, "like the tail of a comet." Some practitioners twist the placenta several times round after it has passed the os externum, so as to convert the membranes into a cord. If the membranes do not descend easily, the patient should be directed to bear down; this usually proves sufficient. If the placenta were to be drawn straight away

without using either of these precautions, a portion of the membranes would be liable to be left in the uterus or vagina, and so produce hæmorrhage or other bad results.

Prec. XII.—The placenta and membranes should be thoroughly examined to see whether they have come away perfect.\* If a large portion of the placenta is missing, or the membranes *are known* to be left behind, an

\* “From the neglect of this very simple proceeding, I have known many cases of great danger occur. A medical friend called me to his assistance on the appearance of violent hæmorrhage, after, as he believed, the placenta was removed. Immediately I placed my hand on the abdomen, I felt satisfied that the whole, or principal part of it, was still within the uterus; but, on inquiry, was informed that it had come away on the application of the slightest traction possible. On requesting to inspect it, a utensil was brought which it was supposed contained the placenta. There was the funis entire—there were all the membranes—and there was a large mass that looked like the placenta lying below the membranes. On turning it up, however, no part of the placenta was there. The cord and membranes had slipped away from their attachment to its body, and a large quantity of blood had collected within the membranes and there coagulated, which was mistaken for the placenta itself. If, instead of being satisfied with the appearance of the funis and foetal membranes, my friend had made his examination, as I have just recommended, the mistake could not have happened; and the cause of the continuance of the hæmorrhage would have been at once apparent. For a case almost precisely similar, Velpeau (edit. Bruxelles, p. 309) may be consulted.”—*Ramsbotham's Obstetric Medicine and Surgery*: p. 443.

attempt should be made to remove them at once, rather than allow the patient to run the risks of flooding and puerperal fever.

Prec. XIII.—Place the left hand next to the skin over the uterus, and while it is pressing the fundus down, pass the index finger of the right hand into the vagina, and remove any clots obstructing the os uteri. In removing the finger, I generally press the posterior wall of the vagina, at the same time pressing the uterus outside, and telling the patient to bear down. By these means, if there should happen to be a clot *in utero*, it very often slips out. It is very important to remove any clots obstructing the os uteri, for a clot in that situation is in many cases a primary cause of post-partum hæmorrhage. As I stated before, in the fifth precaution, it prevents the blood from flowing away from the uterine as fast as it is poured out, and the result is that the blood distends the uterus and coagulates in its cavity. Hæmorrhage

is brought on by the clots preventing the uterus from contracting to its minimum. I know that some practitioners consider the presence of clots *in utero* as beneficial. How they can hold such an opinion, even after moderate experience, is to me perfectly incomprehensible.

Prec. XIV.—The uterus being found contracted, and any clots obstructing the os being removed, a pad, made by folding up two or three napkins, should be placed partly over and partly above the fundus of the uterus, and the binder again pinned tightly. While the placenta was *in utero*, the bandage alone acted sufficiently as a stimulant, but not so when the placenta has been removed; the uterus is now small, and therefore, in order to apply direct pressure to that organ, it becomes necessary to add a pad. If, instead of finding the uterus contracted, it feels large and soft, the binder ought not to be tightened; as, in the case of an uncontracted uterus, there is no safeguard equal to the hand,

which should be kept on the uterus until due contraction sets in, and then, and not until then, ought we to relinquish the pressure of the hand for that of the binder.

Prec. XV.—As is well known, the late Dr. Rigby recommended the application of the child to the breast soon after delivery as a means of preventing post-partum hæmorrhage. I have tried this plan, and found it answer in some cases, while it failed in others. In order to apply the child to the breast, the mother is obliged to make some exertion, for the breast has to be exposed; then this plan fails very often, because the child will not or cannot suck. The new-born infant is sometimes disinclined to take the breast immediately after its birth, or it cannot do so from the mother having a small or flat nipple, or from some fault on its own side, as cleft palate or tied tongue, for example. The mother, in her anxiety to make the child take the breast, moves herself, thinking that



perhaps her position is awkward to the infant, or she pulls the child to her, and tries by every means in her power to make it take hold of the nipple. These movements of the patient are liable to place her in danger, and I have seen one or two instances of flooding after labour, the cause of which I could not attribute to anything else but the exertion made by the mother in the often fruitless attempts to get the child to suck. For the above reasons, I have for some time discontinued the application of the child to the breast as unsatisfactory.

In its place, however, I substitute, in cases where the uterus seems disinclined to contract, a plan which is exactly the same in principle, and has all the advantages without any of its disadvantages. It consists of compression of the breast with the hand. If we place one hand upon the uterus, while we grasp the breast with the other, the uterus will be felt to contract almost instantaneously.\* As the patient lies

\* I was first informed of this fact by Dr. Harrison, of Walsall.

on her left side, the nurse should pass her right hand under the right axilla; the hand will then come at once upon the breast. Gentle compression or squeezing of the breast should be employed at regular intervals. Latterly, I have somewhat modified the mode of exciting sympathy between the breast and uterus. Instead of squeezing the breast, I tell the nurse to imitate the sucking action of an infant by placing the thumb and index finger, one on each side of the nipple, about an inch and a half or two inches from each other, and then drawing them forward just in the the same way as when it is necessary to bring a little milk to the apex of the nipple for microscopical examination in a case of suspected pregnancy, only the action must be much quicker, and repeated frequently. As a preventive means, there is no necessity for the medical attendant to use this precaution himself. In some cases when I am going to remove the placenta, I direct the nurse

to place her left hand upon the breast, and the right hand on the uterus, and press them both at the same time, while I remove the placenta. It assists in insuring a firm contraction of the uterus.

The irritation of the mamma with the hand is preferable to the application of the child to the breast, for the following reasons: 1. It insures perfect rest to the mother. 2. It can be kept up for any length of time. 3. There is no chance of failure in its application. It is not requisite to employ this precaution in every instance; only in those cases where the uterus feels flabby, and there is great difficulty in stimulating it to contract. Before leaving the house, if I have any apprehensions of hæmorrhage commencing after my departure, I give the nurse directions to continue its employment for some considerable time.

Prec. XVI.—The medical attendant ought not to leave the house until an hour has elapsed

after delivery. If the patient should go on for an hour without flooding, with proper care there is not much likelihood of serious hæmorrhage occurring afterwards. A large number of cases might be, and are left a short time after delivery without any harm arising, but the practice is very unsafe.\* Some of the most experienced writers on midwifery emphatically recommend this precaution. Gooch may be mentioned especially, as he took great interest in the subject of post-partum hæmorrhage. Dr. Arthur Farre used to say, in his admirable lectures at King's College: "If you stay with your patients an hour after their delivery, you will very rarely be called back again; if you don't, you may lose a patient from flooding." I very nearly lost two cases in consequence of my having left soon after the delivery of the

\* "The higher classes have not to complain of this neglect, for, if in this rank of society the successful exercise of obstetrics materially induces to the practitioner's reputation, so mis-management in this department of practice will inevitably injure the greatest fame." Ingleby *On Uterine Hæmorrhage*, page 9.

placenta. The following are the notes of one of the cases :

When resident accoucheur to the Dispensary, I attended one Sunday morning five cases of labour. Having finished three of them, I went to the fourth, and found that the child was already born, and the placenta expelled. There had been pretty free loss of blood, but not then sufficient to produce apparently any effect upon the constitution. I was very anxious to go to the fifth; and as the uterus seemed well contracted, and the discharge moderate, I bound the patient up and left. The fifth case had been over some time, so I had not to wait with her long. I had not been home twenty minutes, and was dressing myself, when the midwifery bell was rung violently. The servant came to say that the husband of one of the patients confined that morning wanted me to go with him immediately, as he thought his wife was dying. I went down to the man, and found that he was the husband of the fourth case. "Oh, sir," exclaimed he, "come directly; my wife is speechless." I told him to get a cab, and by the time it had arrived I was dressed and ready. During the drive down, I asked him whether his wife had had any brandy given to her. He said that there were three or four women in the room, but he had not seen them give her anything. I confess my fears were, that she would be dead before I could get to her assistance; fortunately, the terror-stricken attendants had called in a neighbour, who had seen two or three cases of flooding treated,

and she administered brandy freely. On my arrival, the patient had slightly rallied. The uterus was large and blood was flowing away freely. I saw at once that her state would not allow the wasting of time by trying simple remedies, therefore I passed my hand into the uterus and removed a quantity of clots, and then by following up with pressure, cold, and ergot, the hæmorrhage was arrested. She remained in a very critical condition for many hours, requiring brandy every few minutes to keep her from fainting, but she slowly recovered.

No doubt some will say, "It is very true that it is safer not to leave a patient until she has been delivered an hour, but I have so large a practice that I cannot spare the time." If labours usually terminated in the day time, a medical man in large practice could not well do so. The majority of cases, however, terminate either before the work of the day is begun, or after it is finished; it is quite the exception for labours to terminate during the hours of the day in which patients come to see us, or we can go and see them. If a medical man, even with a large midwifery practice were

to note down the number of hours he had lost during *the hours of work* in a year, from remaining with his patients the required time after delivery, I expect he would find it to be ridiculously small. I feel convinced that if we wish to do justice to our patients, and practise midwifery satisfactorily, we must not omit this precaution, if possible.

Prec. XVII.—When the patient has been confined an hour, and there is no hæmorrhage, she may have the wet things removed, including the binder, which is generally soiled at its lower edge, and the clean things drawn down. Gooch recommends us not to move the patient for two hours. This advice is very good; the reason I do not follow it in ordinary cases is, that I cannot feel satisfied unless I ascertain the condition of the patient after she has been placed in bed, and I prefer applying the binder myself. It is important to feel the state of the uterus and ascertain the amount of discharge

after the patient has "been put to rights," as the pulling off the wet clothes and drawing her higher up in the bed is sometimes quite sufficient to bring on flooding. Amongst the poor, most of whom, if allowed, will be confined in their stays and numberless petticoats, it is not uncommon for hæmorrhage to set in after they have been undressed and placed in bed. The greater the difficulty in removing the clothes, of course, the more the mother has to exert herself, and the more liable she is to flood. Directions should be given to the nurse to move the patient as little as possible, and not to let her sit up for one moment. The wet things should be drawn away gently, and then the clean things drawn down. All these points can be effected much more easily and with more safety by two than by one; it is as well, therefore, to have another woman to assist the nurse. When the patient has been placed comfortably in bed, the medical attendant should examine the pulse, and pass his



hand over the uterus to feel whether it be of proper size and contracted; and the patient should be asked whether she feels much loss. These three points being satisfactory, a good wide calico binder should be passed under the hollow of the back, and with the assistance of the nurse drawn under her, so that the lower edge of the binder extends down to the trochanter major. Two napkins should be placed over the fundus of the uterus, and then the binder pinned tightly on the right side of the patient.

What I have to say of the binder I shall say now, as it should be only used as a means of preventing, not arresting hæmorrhage. No one in his right senses would make use of a binder while hæmorrhage was going on. The binder acts like an artificial hand, applying pressure and irritating the uterus into a permanent and equable contraction. It is a safeguard which no prudent practitioner would think of omitting. Besides the binder, the application of a pad over

and above the fundus of the uterus is of great value. The binder applies equable pressure over the abdomen, whereas the pad applies direct pressure to the uterus. The pad I use in ordinary cases, where there has been no hæmorrhage, consists merely of two thick napkins—one half placed over, the other half above the fundus. If there has been flooding, a safer pad consists of three big napkins rolled up separately—one should be placed transversely above the fundus; the other two perpendicularly, one at each side of the uterus. The upper extremities of the side pads should lie over those of the upper pad. In this way the uterus becomes enclosed, as it were, in a box: and if the binder be tightened firmly over them it is almost impossible for the uterus to escape from their clutch.

About twenty years ago a very animated discussion arose, I think in the pages of the *Lancet*, on the subject of applying a binder after

delivery. A few contended not only that it did no good, but actually did harm. One objected to it on the ground that it was liable to bruise the uterus. Without a pad, I believe, it would be very difficult to bruise the uterus, let the bandage be applied ever so tightly. We must remember that the uterus is a moveable organ, and on that account the actual compression is not so great as it would appear to be. The uterus is pressed slightly downwards, but chiefly backwards. If the uterus were immovable, it would be easy to understand how bruising of its structure could be produced by a tight binder. Another gentleman gave it as his opinion, that the binder is a prolific source of *prolapsus uteri*. That would be very difficult to prove, and it seems rather curious, that the very application, which generally gives such relief in prolapse of the uterus, should be one of the causes of that distressing malady.

One of the best proofs to my mind of good

accruing from the application of a binder, is the comfort it affords to the patient. They generally tell you "How nice that feels!" "Oh, how beautiful!" and other like exclamations.

Dr. Tyler Smith states, in his *Manual of Obstetrics*, that he has known cases where he had been obliged to attribute a fatal result from hæmorrhage to the neglect of applying a binder after delivery. I can quite credit it, and I am very glad to find that this eminent and practical authority so strongly recommends its application.

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## CHAPTER IV.

## THE REMEDIES.

BEFORE I proceed to consider the remedies which have been found useful in the treatment of post-partum hæmorrhage, I may state that I object most strongly to the present routine method of treating the complication. In obstetric works, we find a page or two given to the causes of flooding after labour, and two or three pages to its treatment. Although the causes are numerous, and various in their nature, the treatment is the same in all cases. We are advised to try a number of remedies, one after another, until we succeed in arresting the hæmorrhage, beginning with mild, and ending up, "as a last resource," with severe measures, without the slightest reference to the cause or

causes which have set up the hæmorrhage, or keep it going. Can anything be more unscientific or unsatisfactory than such a plan of treatment? To those whose only object is to stop the hæmorrhage, the routine method will be sufficiently satisfactory. By trying one remedy after another we can generally manage to stop the hæmorrhage; but we ought not to be content with merely stopping the discharge; we should endeavour to arrest it quickly, and to preserve as much of the blood flowing in the patient's body as we can. A pint of blood saved, and a pint of blood lost to the patient, may make all the difference between a rapid and a tedious convalescence—may make all the difference between a successful and a fatal issue. The only way of arresting flooding quickly is by removing the cause or causes which keep it up. What would be the answer of a practical medical man if he were asked how he would treat a certain case of menorrhagia or metrorrhagia?

“It would depend upon the cause or causes:” and that would be the answer I should give to any one who asked me how I should treat a case of post-partum hæmorrhage.

The further discussion of this topic I shall leave until I come to consider the causes, their diagnosis, and treatment, and will now go on to describe the numerous remedies which have been found useful in the treatment of flooding after delivery. We should learn all of them thoroughly, for although in some cases, by employing a right treatment, we may only require a single remedy; in other cases, such as in obstinate inertia, or where the causes are many in number, it may be necessary to use the majority of them.

#### PRESSURE ON THE UTERUS.

There is nothing equal to the hand for compressing the uterus. We may find means by which we can apply the pressure with more force; but the hand alone can

give us, at the same time, information as to the state of the uterus—as to whether it be getting larger or smaller; as to whether it be still flabby or contracted; as to whether it be tender or not—all points of great importance. If one hand only is necessary, the left will be the most convenient; we want the right either to lift the clothes up slightly so as to enable us to see the amount of discharge, or for the application of other remedies. In some cases, pressure with both hands, from their grasping the uterus more completely, acts beneficially in stimulating the uterus to contract in a regular manner. Whether one or both hands be used, we should grasp as large a portion of the uterus as we can, and apply equal pressure. Kneading the uterus with the tips of the fingers is very useful in obstinate instances of inertia, where there is great difficulty in setting up contraction; but in ordinary cases I prefer the application of equal pressure over as large a surface of the



uterus as one or two hands can command, as it produces a more regular contraction.

The application of strong pressure on the uterus by means of a tourniquet has been recommended by Mr. Pretty and his son, the late Dr. Pretty. Mr. Pretty says: "It is in cases of flooding after delivery that I have found the use of the tourniquet so highly satisfactory, and I strongly recommend its employment to all accoucheurs. I believe that the tourniquet will not only arrest the violent and large discharges of blood from the uterus, but will likewise prevent that slow draining away of it which, without producing syncope, is oftentimes the cause of great exhaustion and a long convalescence. It will likewise relieve the practitioner of much bodily exertion, and materially abridge the period of watchfulness; for, feeling assured that his patient is safe, all painful anxiety is removed from his mind." In using the tourniquet, a pad consisting of a book, wrapped in a napkin, or Dr. Pretty's

uterine compress, must be placed under it, so as to equalise the pressure. The compress is so made that pressure can be maintained both above the fundus and at the sides of the uterus. It is fully described in his very practical work on *Aids during Labour*. The uterine compress and belt, with tourniquet attached, may be obtained from Coxeter, of Gower Street.\*

#### COLD.

I shall first consider the various ways of applying cold to the uterus externally. They are generally more effectual when combined with pressure. Pressure with cold hands will, in some cases, suffice to excite a firm contraction of the uterus. Another plan, which sometimes

\* Mr. Pretty was kind enough to send me his uterine compress with tourniquet attached, and I have tried it in a few cases. My experience has been too limited in its use to enable me to express a decided opinion as to its value, but at present I should not feel disposed to use it to *arrest violent* floodings. In preventing a repetition of the hæmorrhage, and in those cases attended with slow continuous draining it would probably prove invaluable.

answers, is to place a number of small plates, one at a time, over the fundus of the uterus; as one plate gets warm, it is replaced by another. These two methods have the advantage of not wetting the patient, which cannot be avoided when cold water is used. The plan I usually adopt is to have a bucket of cold spring-water placed on a chair close to my side. I begin by placing both my hands in the water, and keeping them in until they feel very cold. I then take out one (say the left), and place it immediately on the bare abdomen, over the fundus of the uterus; the other remains in the water. When the left hand begins to regain its warmth it is removed and placed in the cold water again, and the right hand takes its place; and so on *vice versa*. I have found this plan often effectual; it keeps up a continual application of cold, without wetting the patient much. Cold may be applied to the uterus with advantage by means of a large napkin dipped in cold water. A plan

frequently put into force by students is, to take a jug of cold water and to pour it from a considerable height upon the abdomen. This rough procedure often answers admirably, but it makes the patient and the bed in a frightful mess. I must confess I am very chary of wetting the clothes of a flooding patient more than I can possibly help. I have seen two cases of pelvic cellulitis, occurring in women after flooding which I firmly believe was in a great measure brought on by their having to lie for hours in clothes soaking wet. I do not say that the douching from a height should never be done, as cases do arise in which the uterus will respond to no other stimulus, but I think it is better first to try more gentle means of applying cold.

Besides cold externally to the uterus, cold may be also applied to the vulva. It is generally done by means of napkins frequently dipped in cold water. In some cases I have seen good done apparently by wiping, in addition, the

lower part of the spine, the buttocks, and back of the thighs with the wet napkin. Placing the patient's hands in cold water has also been found useful.

In the majority of cases, the external application of cold, with or without other measures, suffices to stimulate the uterus to contract. In a few instances we may have to use cold internally. We may inject cold water into the uterus, vagina, and rectum. The injection of cold water into the cavity of the uterus has been employed with excellent result after all other means had failed.\* The nozzle of an ordinary Higginson's syringe should be directed through the os by the left hand, and the water pumped in by the right. A syringe should be kept for this purpose alone, and it should never be used for washing away offensive discharges. If a case of hæmorrhage has been treated properly from

\* Gooch used to say, "I am never happy unless I carry my elastic bottle with me."

its commencement, the intra-uterine injection will rarely be required. It must be employed with caution if the patient be in a dangerous collapse. A medical friend told me that he once used the cold water injection into the uterus, and that the patient never rallied after it was done. Whether that was due to the great loss of blood or the shock of the injection, or both combined, it is impossible to say. Injection of cold water into the rectum is very useful in cases attended by obstinate draining several weeks after delivery. The injection of strong astringents into the uterine cavity has been recommended; but, indeed, must be the case in which simple water is not sufficient.\*

\* Pasta in extreme cases advises the injection of alcohol (*Gardien*, vol. iii, p. 230). Dr. Torboeck, of Darlington, also recommends in bad cases an intra-uterine injection of brandy neat or diluted with water, having used the remedy in several cases with success. A lemon decorticated and introduced into the cavity of the uterus, after having had a tape or string passed through the substance so as to allow its removal to be effected, has been employed successfully after other remedies have failed by Mr. Meredith, — *Lancet*, March 22, 1825, and by Mr. Griffin, of Weymouth,

Another way in which cold can be applied internally is to let the patient drink a glass of water as cold as it can be obtained. It very often brings on a strong uterine contraction, and at the same time rallies the patient.

In the employment of cold, we should bear in mind the following facts—that cold, applied for too lengthened a period, acts as a depressant, and loses its effect; that the colder the water, the greater the shock, and the more powerful its effect in inducing permanent uterine contraction. These teach us that, in bad cases, the continued application of cold requires care lest it increase the exhaustion; that it is most important to have the water as cold as it can be obtained, as the effect depends upon the coldness, and not upon the quantity of water used. Water, fresh from the pump, is generally cold enough; if we can obtain ice easily, so much the better. Dr. Tyler Smith recommends, in some instances, the application of cold and warm water

alternately. I should say this would be most useful in cases where cold had been applied for some time, and was losing its efficacy.

### ERGOT.

When good in quality, ergot is a most valuable remedy ; it arrests the flooding chiefly by exciting contraction of the uterus. One fault in the drug is, that it sometimes fails in producing its specific effect. The failure may be due to the ergot being inert, or to some peculiarity of the patient rendering her insusceptible to its action. It very rarely fails from an idiosyncrasy, but from the absence of the active principle (whatever that may be) of the ergot. There is great difficulty, first in getting good ergot,\* and next in keeping it good. Prior

\* I have purchased samples of ergot from three or four of the most respectable chemists of Birmingham, and to my professional brethren of this town I can confidently recommend that sold by Banks and Richards, Chemists, 2 and 3, High Street, Bull Ring, as being of unusual good quality.



to the purchasing of the drug, we should examine its quality. The grains of ergot are from half an inch to an inch and a half in length, of a dark purple or black exterior, and ribbed in the longitudinal direction. On its surface, longitudinal and transverse fissures are generally present. On breaking a grain across, the interior is either of a white colour tinged with purple, or of a dirty yellow hue. The difference of colour depends probably upon the age of the grain. Ergot has also a peculiar strong odour, slightly irritating to the nose. The best indications of good ergot are the large size of the grains, both in length and breadth, and the strong oppressive odour. Good powdered ergot is known by its not being as fine as dust, and by its possessing the odour in a strong degree. The insect which feeds upon it, and destroys it, is a species of *acar*, and may be seen sometimes by the naked eye, although its form cannot be defined without the aid of a microscope. These creatures will,

in a very short time, reduce coarsely powdered ergot to a fine dust, and render it perfectly inert. The best way to prevent ergot from spoiling is to keep it in the form of grain in a glass stoppered bottle, with a piece of camphor about the size of a pigeon's egg, thrust into the centre of the mass. If a cork instead of a glass stopper be used, the aeri will soon riddle it through, and allow free ingress of air. Not more than an ounce or two of ergot ought to be crushed for use, as it rapidly deteriorates in the powdered state. It is given in the form of infusion. One draehm, or a good tea-spoonful, is placed in a teacup of *boiling* water, and allowed to stand ten minutes, then half the quantity may be administered, and the other half in twenty minutes, or half an hour after, if the desired result should not have been produced. Before taken, the infusion should be stirred up, that the patient may swallow the ergot grounds as well as the fluid. Besides the infusion, there are

other fluid preparations, and an extract called ergotine. I have used the latter, and one of the former, and the results have prejudiced me against their use. In some cases, uterine contraction followed apparently their employment; while in others no effect at all was produced. I could not depend upon them as I could upon the infusion of good ergot. One great objection to them is, that we cannot be certain that they are made from ergot of good quality. I have lately heard the *extractum ergotæ liquidum*, B.P., very highly spoken of, and I intend to give it a trial. The dose is one teaspoonful. A trustworthy fluid preparation of ergot would be of manifest advantage. The active principle would be preserved from the ravages of the acari, and it would be ready for immediate use—a point of considerable importance in an urgency like flooding.\* Although ergot is about one of the

\* I have since tried the Pharmacopœal preparation of ergot pretty extensively, and am so satisfied with it that I have quite given up using the infusion of powdered ergot. I had the liquid extract made by

most valuable remedies we possess in the treatment of post-partum hæmorrhage, there are cases in which no good will be attained by its administration, and others in which it will do harm. I shall particularise them in subsequent pages.

#### INTRODUCTION OF THE HAND INTO THE UTERINE CAVITY.

This is one of the means of arresting hæmorrhage which requires care and judgment in its use. I do not agree with the opinion of many writers that it should be put into practice only as “a last resource.” I have in several cases made use of it as a first remedy; and, by so doing, have in a few moments transferred patients from a state of imminent peril into one of comparative safety. The ease or difficulty with

Messrs. Banks and Richards, knowing I could depend upon their ergot. *Before purchasing the fluid preparation of ergot, be quite sure that the chemist always keeps good grain in stock.*

which the hand may be passed into the uterus depends very much upon the size of the hand. We know what a slight difference in the size of the child's head, or of the pelvic cavity will make the labour easy or difficult; and just so in the introduction of the hand. If a medical man has a very large hand, and his fingers are all thumbs, he will find great difficulty in passing his hand into the uterus, and will cause his patient great suffering; but if his hand be small, it will pass easily and give very little pain. I have noticed, and it is what we should expect, that the men who deprecate the procedure are generally those who possess big hands. The effect upon the patient will also depend a great deal on the size of the hand. The smaller it is, the more easily it will pass, the less pain it will cause, and the less shock and exhaustion will ensue. Let it not be thought from the above remarks that I look upon the introduction of the hand as a light matter, to be undertaken indiscriminately without any refer-

ence to the ease before us, for I do not; I never pass my hand into the uterus unless I have a good reason for it; but if, from the nature of the ease, I feel satisfied that that is the correct proceeding, I do not hesitate and go on trying a number of other remedies with the hope that the introduction of the hand may be avoided. Such hesitation, in some cases, would prove fatal. Dr. Tyler Smith says:—"I believe, in the present day, more mischief is caused from a kind of fear of the uterus, and of interfering with its natural action, than from bold and intelligent efforts to guide and control it."

The introduction of the hand may be necessary for the application of internal pressure and irritation, or for the removal of substances which keep up the flooding by distending the cavity of the uterus, and preventing its due contraction. Before it is undertaken, brandy should be given to the patient, and the nurse told to continue its administration from the time that

the hand commences to pass through the vulva until it is removed. In flooding cases, this precaution should never be omitted. It averts the faintness and shock which otherwise might ensue, and it also assists in drawing away the patient's attention from what is being done. Since I have taken the precaution of having brandy given *during* the operation, I have seldom observed depression or fainting result.

The hand may be introduced as follows: If the patient is lying on her left side, the left arm and hand will be more readily passed than the right. They should be well greased, and the fingers and thumb so packed as to be made to occupy as small a space as possible. The first and fourth fingers should be placed in front of the second and third, and the tip of the thumb at the base of the cleft between the third and fourth fingers. The usual plan of placing the tips of the fingers and thumb together is not so good, as it takes up more room. The hand

should be then passed gently and slowly, feeling its way as it goes on, through the vulva and vagina into the uterus. The hand, as it passes through the vulva, generally produces more or less pain on account of the soft parts being pinched against the descending rami of the pubis. The mere presence of the hand in the vagina or uterus does not give rise to much pain. It frightens more than it hurts the patient. The hand should never be removed until it has effected the purpose for which it was passed; for instance, in adherent placenta, to pass the hand into the uterus, and then to take it away again without bringing away the placenta, on account of the patient's or her friends entreaties, would show a great want of presence of mind, and it would be acting cruelly instead of kindly to the patient, because the introduction of the hand would have to be repeated. I shall postpone the description of what has to be done with the hand while in the cavity of the uterus, until I come to



consider the causes for the removal of which it has to be passed.

In a very bad case, where the patient is exceedingly low, it may be a question as to whether the hand should be passed into the uterus before the patient has somewhat rallied. The cases are quite exceptional, in which it would be well to wait. If a great loss of blood is going on, we cannot expect that the patient's condition will improve, but just the reverse; and, if the hand has to be passed at all, the sooner it is done the better. During the operation, in these cases of great depression, the brandy must be poured down the patient's throat undiluted with water. The introduction of the hand, and especially whatever it has to do in the uterus, should be done gently and deliberately.

#### THE USE OF THE CATHETER.

When summoned to attend a labour, the medical attendant should never omit to

take a female catheter with him. It may be required during labour to relieve the pain and discomfort consequent on a distended bladder, or to facilitate instrumental aid, or to prevent the occurrence of post-partum hæmorrhage. After delivery, in some cases of flooding, the introduction of the catheter may stop the loss at once, or most materially assist the action of other remedies. The instrument which I am in the habit of using is a silver female catheter, flattened on the upper and lower surface. A flattened catheter is passed much more easily along the female urethra than a round one. When a woman is flooding, the best way to pass the catheter is to feel for the meatus with the finger, and not to seek it with the eye. Blood is constantly draining from the vagina, and the mucous membrane is covered with it, so that it is not at all easy to find the meatus by looking for it; on separating the labia, blood wells up continuously, and

effectually obscures the orifice we are seeking. Of course, one unaccustomed to pass the catheter in the female will find either way difficult, but the surgeon who can pass the catheter without exposure will, in cases of flooding, prefer finding the meatus by the touch, simply because it is more easy.

There are two or three ways of passing the catheter without exposure. The following is about as good as any: Pass the first finger of the left hand, in front of the patient, between the legs, and place it between the labiæ on the smooth vestibulum. Then glide the finger slowly backwards until the smoothness of the vestibulum ceases, and we come upon a rugged portion of mucous membrane. At the very junction of the smooth and rough, the orifice of the meatus will, by a little manipulation, be detected, in primiparæ, small and firm, in multiparæ generally large and patulous. The tip of the finger must be kept on the orifice,

to act as a guide to the catheter passed from behind by the right hand. No force is required in the introduction of the catheter into the bladder; if it should not pass easily, we may be sure either that it is not in the meatus at all, or that the tip of the instrument is hitched in the mucous membrane of the orifice, or, more rarely, further up in the meatus. It should be taken out, and re-introduced.

#### THE ADMINISTRATION OF ASTRINGENTS BY THE MOUTH.

In those cases in which the flow of blood occurs rapidly and in large quantity, astringents taken by the mouth are of no use. They do not act quickly enough. Hæmostatic medicines are only useful in cases where the loss takes place in the form of free draining, and continues for several days. The mixture I usually prescribe contains one drachm of gallic acid, a drachm and a half of dilute sulphuric acid, and forty

minims of Battley's solution of opium in six ounces of compound infusion of roses: two table-spoonfuls to be taken every three or four hours. Many medical men do not believe in the efficacy of astringent medicines given in hæmorrhage connected with parturition. In flooding after delivery I have the greatest faith in them, if their administration be confined to the cases which occur in the form of excessive and long continued draining. As they do not interfere with the application of local remedies, and as they cannot do harm, there is no reason why we should not administer them in the hope of their acting beneficially.

#### COMPRESSION OF THE ABDOMINAL AORTA.

Up to the present day, compression of the aorta has only been used in cases where all other remedies have been tried in vain; and it has become absolutely necessary, in order to give the patient a shadow of a chance, to adopt some

means which will stop the loss, until the uterus can be roused to due contraction. It may be effected either through the abdominal walls, or by the hand within the cavity of the uterus. Except in stout women, the aorta can generally be easily compressed through the walls of the abdomen, on account of their great laxity after delivery. If the compression has to be kept up for any length of time, it will be less irksome to the medical attendant, and more agreeable to the patient, to effect it through the abdominal walls with the hand or a tourniquet, than by the hand in the uterine cavity. Compression of the aorta has, without doubt, saved the lives of some women, and deserves a more general trial than it has hitherto obtained. It acts beneficially in two ways: it prevents a further loss of blood, while we are exciting the uterus to contract through the agency of other means; and it lessens the depression by retaining the blood in the most vital parts of the body, viz., the brain,

heart, and lungs. In some cases, where the aorta could be easily reached, we might, probably with great advantage, employ compression at a very early stage of the treatment. To show its practical value, I subjoin the notes of three cases. The first occurred in the practice of Mr. Blount, and is related in Mr. Ingleby's work on *Uterine Hæmorrhage*:—

“On the termination of labour Mrs. W. was, to all appearance, quite comfortable. In about half an hour she complained of being very faint; her countenance was very pale and anxious. There had been little or no external hæmorrhage; and, on placing my hand over the abdomen. I could not distinguish anything resembling the uterus. By friction and compression some discharge was forced away, but no beneficial effect resulted; the hand was, therefore, passed into the uterus, and a mass of coagula, which distended its cavity, cleared away. By this means, and by gently irritating its inner surface, contraction was promptly effected. Though the discharge had now considerably abated, the exhaustion was very great, the pulse being exceedingly feeble and frequent, and the patient appeared sinking. I now placed my hand on the abdomen, just above the uterus, and, from the spareness of habit, easily distinguished the pulsation of the aorta, and made

pressure so as to intercept its current of blood. This was continued with increasing advantage for half an hour, and as the patient was much revived, I then withdrew my hand. Upon the withdrawal of the hand, the sinking immediately returned attended with giddiness in the head and a slight return of the hæmorrhage. Pressure was again made for the space of two hours with the same good effects. Twice during this period I allowed the blood to pass to the lower extremities, but with the same unfavourable results as before. A modified and less effective pressure was continued for four hours longer, before it could be entirely dispensed with."

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The second case occurred also in the practice of Mr. Blount. Mr. Ingleby, who was present, says:

"Whilst pressure was exerted over the aorta, the uterine , contractions were provoked by two fingers passed through the os uteri. Whenever the pressure over the vessel was withdrawn, there was an almost instantaneous return of hæmorrhage and syneope, and some hours elapsed before the patient's safety was secured."

The third case came under the observation of Mr. James D. Brown, of Haverfordwest, and is published in the *Medical Gazette* of December 2, 1842 :



"I (Mr. Brown) attended a woman, æt. thirty-four, in her fourth confinement; she was a person of lax fibre. The labour was natural, and terminated in six hours; but a violent fit of shivering seized her before the expulsion of the child. I was prepared for the event; and, as I expected, flooding came on to a fearful extent. The placenta was loose, and came away with the first gush. The uterus again dilated, but I passed my fingers into its cavity, in order to excite it to contract, and at the same time made pressure externally, but hæmorrhage still continued in spite of every effort—pressure, cold applications, &c., &c. She had fainted and recovered, and was suffering from the effects of the loss of blood. I decided on trying the effects of pressure on the abdominal aorta. I had no difficulty in finding it. I made a firm pressure on it, which gave the patient some pain. The hæmorrhage ceased directly and did not recur; I had it in command; to feel satisfied of that, I gently relaxed my grasp once or twice, when bleeding again commenced. I still kept up pressure on the uterus, and administered *secale cornutum* in brandy and hot water. The woman rallied, the uterus contracted firmly and permanently, and I let loose the vessel after pressing it for nearly two hours, and all went on as well as possible."

Mr. Brown states that a similar case occurred to him about two months after, in which he adopted the same means, and with the same satisfactory results.

## PLUGGING THE VAGINA.

In flooding after delivery, plugging of the vagina should be *very rarely* resorted to. The uterus after labour is so distensible, that in many instances to plug the vagina, would be merely to convert an external into an internal hæmorrhage.

To show the inefficacy and danger of plugging the vagina soon after delivery, with the uterus uncontracted, I quote the following case from Merriman, *On Difficult Parturition*: p. 283.

“ In August, 1805, I was desired to see a woman in labour, who was attended by a very skilful surgeon ; she was a very lusty woman, and, after a labour of more than forty hours, was delivered by the forceps. After the removal of the placenta, the uterus continued to pour out blood in a very profuse manner ; to remedy which, my friend proceeded without delay to plug the vagina and very carefully and completely closed up the passage with soft napkins. &c. But, though not a drop of blood could be seen externally, it was evident, by the enlargement of the abdomen, that a great accumulation was taking place within the uterus, which occasioned the patient much pain and uneasiness. At length an excessive forcing took place, the plug was expelled with great violence, and such a profusion of

discharge took place, as to overspread the bed and run in a stream on the floor ; while the patient became so faint, as to excite great alarm respecting her. On this the hand was introduced into the uterus, and some coagula were removed, after which contraction took place, and there was no further discharge to create alarm."

It is only applicable in those cases in which the uterus is contracted, and yet, notwithstanding, there is an excessive draining of blood. We must guard against internal hæmorrhage by external pressure; and if there should be evidence of flooding going on in the cavity of the uterus, the plug must be immediately extracted. For plugging the vagina after delivery, there is nothing equal to an india-rubber air pessary, as it is easily introduced, most effectually prevents the escape of blood, and is easily removed.

#### OPIUM.

In some cases of flooding, this drug is of great value. I quite agree with Dr. Ramsbotham,

that it is not advisable to administer it when the hæmorrhage is due to inertia of the uterus. The most agreeable preparation of opium is Battley's solution, and it may be given in a large dose—thirty minutes, at least.

### BRANDY.

Brandy acts beneficially in two ways: it rallies the patient and, in some cases, sets up contraction of the uterus. One of the first things we should see to, on our arrival at the house of a patient in labour, is that there is a supply of brandy. Many a woman has lost her life from a want of this precaution. When brandy is wanted in the middle of the night, it is often most difficult to get. Public-house keepers are prohibited from selling it after twelve p.m., except, I believe, in cases of illness, and they generally will not listen to that plea, unless you are backed up by the authority of a policeman, an individual who is proverbially difficult to find when he is wanted.

It should be the best *pale* brandy, or we may find a difficulty in getting the patient to drink more than a very small quantity of it, especially if she is unaccustomed to spirits. It may be given freely, diluted with half the quantity of cold water, or pure, according to the amount of depression. The chief object for which it is given is to rally the patient; but it undoubtedly, in some cases, also assists in arresting the hæmorrhage, by bringing on contraction of the uterus. In two or three cases of lingering labour from inertia, I have brought about a speedy termination by a glass of hot brandy and water.

#### IRRITATION OF THE BREAST.

Dr. Rigby considered that the application of the child to the breast was a valuable means, not only of preventing, but also of arresting hæmorrhage after labour. I stated, in the fifteenth precaution, the objections to this plan

of exciting sympathy between the uterus and the breast as a preventive means, and they would apply with still greater force to it as a remedial agent. A woman who is flooding must not be allowed to move, and it is impossible to apply the child to the breast without the patient exerting herself, especially if there is difficulty encountered in making the child suck. If this plan succeeded pretty often, it would, perhaps, be justifiable to allow the patient to make the necessary exertion, and thereby increase the flooding for a time; unfortunately, it very often fails from the child refusing to take the breast, in which case valuable time will have been lost and the patient's condition aggravated.

Compression of the breast or imitation of the act of sucking with the fingers, as described in the fifteenth precaution, is much safer, and much more likely to succeed than the application of the child to the breast. It not only does not disturb the patient, but the nurse

can undertake its management, while we are doing our best to stop the flooding by local remedies to the uterus. If it does no good, it can do no harm.

### OIL OF TURPENTINE.

This medicine has been extolled as an excellent stimulating hæmostatic in post-partum hæmorrhage. I have not had any experience of its utility. Dr. Swayne, in his work *On Obstetric Aphorisms*, recommends half an ounce of it to be given in an equal proportion of milk, a quarter of an hour after a dose of ergot.

In some cases of flooding after delivery, where an important part of the treatment is to empty the lower bowel, oil of turpentine will prove useful in conjunction with other ingredients injected per rectum. The following makes a very good *cold enema*, and one that can be made on the spot:—Place in a medicine bottle an ounce of cold water, half an ounce of castor

oil, and the yoke of an egg slightly beaten up. Then shake up the bottle until the ingredients are thoroughly incorporated. Lastly, add half an ounce of oil of turpentine, and again shake up the bottle well. The mixture may then be poured into a pint of cold water stirred up and used.

#### GALVANISM.

There are few cases of flooding on record which have been treated successfully by means of galvanism. A serious objection to it is, that the apparatus is not generally at hand. I should say that the rotatory galvanic machine would answer extremely well. The position of the handles may be made to vary: one may be made to touch the sacrum, and the other placed over the region of the uterus; or they may be placed one on each side of the uterus; or one at the fundus, and the other at the pubis, or in the vagina.



While we are on the subject of galvanism, I may throw out the suggestion, that galvanism of the breast might prove beneficial. I should not be at all surprised to find that it had the effect of exciting strong sympathy between the uterus and breast.

We have now briefly considered all the various means which have been found serviceable in arresting flooding after labour. When I say all, I mean all those that will be required for the vast majority of cases. I shall postpone mentioning two or three other means of arresting hæmorrhage until I come to speak of the rare causes for the removal of which they are necessary.

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## CHAPTER V.

## THE CAUSES, DIAGNOSIS, AND TREATMENT.

HAVING studied what the remedies are, the next question to consider is in what order should we apply them? This inquiry is very natural. The remedies are numerous, and we cannot use them all at the same time. If we look for the answer in obstetric works, we find, what I have already hinted at in preceding pages, that the remedies are to be applied in a routine manner. The only order we are recommended to follow is to use the mild means first, and if they should not succeed, then to try more severe measures. The most hazardous means—an instance of which is the introduction of the hand—are only to be used when all other means have failed. This routine method of applying the remedies

generally proves successful—*i. e.*, it generally succeeds sooner or later in arresting the hæmorrhage and in saving the patient's life, but it fails very often in stopping the loss of blood *quickly*. In the treatment of flooding, we should study the future as well as the present condition of the patient. It is a poor satisfaction to succeed in stopping the hæmorrhage by the time the patient has lost nearly every drop of blood in her body, and when it will take her months or years to recover from its effects. I do not mean to say that, in some cases, any other mode of applying the means would succeed any better than the routine method, because, in instances of obstinate inertia of the uterus, use the remedies in whatever order you like, you will have the greatest difficulty in stopping the hæmorrhage, and sometimes you will succeed only just in time to save the life of the patient. Inertia of the uterus, however, is by no means the only cause of post-partum hæmorrhage; there are numerous

other causes of an entirely different nature. Some of these act by inducing imperfect contraction of the uterus, and in such cases, remedy after remedy will fail until we try the right one; whereas, by using the correct means at first, the hæmorrhage will often be stopped there and then.\*

Occasionally the remedy which ought to be applied early is that which we are recommended not to use until other means have failed. We are so advised on account of some of the remedies being more hazardous than the other; but if one of them should

\* Some may suppose that inertia and imperfect contraction of the uterus are synonymous terms; but they should never be employed as such. It is true that we cannot have inertia without imperfect contraction; but we may have imperfect contraction without inertia. Of this fact I will give an example. Hæmorrhage after delivery sometimes arises from the presence of clots in the cavity of the uterus. Two of the chief symptoms are severe after-pains, and a tender condition of the uterus, and so tender indeed that the patient sometimes cannot bear the uterus to be touched through the abdominal walls. Here there is no inertia, as evidenced by the after-pains, and irritable condition of the uterus; but there is imperfect contraction. The clots prevent the uterus from contracting to its minimum. Remove the clots either by pressure or the introduction of the hand, and the hæmorrhage at once ceases.

be *the proper* measure to be adopted in the case, would it not be less dangerous to use it when the woman is not much exhausted, than to leave it to the last, and apply it when she is in a precarious state from loss of blood?

To recapitulate the objections to the routine plan of treating flooding after labour—1. It very often fails in arresting the hæmorrhage quickly, and therefore endangers the patient's life by a needless loss of blood. 2. It does not sanction the use of severe measures until milder means have been first tried; whereas, in some cases, the former are the only kind which will stop the flooding, and in those instances, to delay their employment until the woman falls into a dangerous state from loss of blood will be to render their application still more hazardous.

The method of treating post-partum hæmorrhage that I have found to be the most satisfactory is first to find out the cause of the flooding, and then to apply the remedies which tend to remove

it. In some instances, the hæmorrhage is only due to one cause, and the application of one remedy may suffice to stop the discharge at once; in others it is kept up by two causes, or even three. Take, for example, five imaginary cases—one may be due to inertia; the second, to distension of the cavity of the uterus by clots; the third to distension of the bladder; the fourth may result from two causes, inertia and clots; the fifth from three—inertia, clots, and distension of the bladder. The greater the number of causes present in one case, of course the larger the number of remedies required to remove them, and the more difficult it is to manage. The advantage of treating flooding after labour by the application of means which remove the cause is, that it prevents a greater loss of blood than is necessary; sometimes the most violent hæmorrhage may be at once stopped by applying the remedy suitable to the case. Not only will it lessen the loss of blood, but it will lessen the

mortality. I feel convinced that many of the fatal cases on record have been erroneously attributed to inertia, when some other cause was present, and remained undiscovered. I have previously mentioned four fatal instances which came within my own knowledge, and which, in all probability, might have been saved by proper treatment. A post-mortem examination of the bodies revealed in two of them adhesion of the placenta to the uterus; and in the other two, the uterus was found full of clots. The proper remedy for their removal had not been applied.

Finding out the cause of the hæmorrhage implies the necessity of making a diagnosis, and some might object to this on the ground that, while we are seeking for the cause, the woman might die from loss of blood. My answer to such an objection is, that the common causes of post-partum hæmorrhage are not at all difficult to diagnose, and after a little experience may be found out in a moment. If there should be any

difficulty in ascertaining the cause of the hæmorrhage still no time need be lost; simple remedies, such as pressure, or pressure and cold combined, may be applied at the same time that we are making our diagnosis.

In the present chapter I shall consider the causes of hæmorrhage occurring after the birth of the child, but before the delivery of the placenta, their diagnosis and treatment. I shall give the symptoms and treatment of all the causes separately; where there are two or three causes present in the same case, the treatment proper for each must be undertaken.

#### PARTIAL SEPARATION OF THE NOT MORBIDLY ADHERENT PLACENTA.

After the birth of the infant, the uterus generally remains quiescent for a short time before it contracts to detach the placenta. Dr. Murphy has given to that condition of the uterus the very appropriate term of "suspended



action," in contradistinction to that of true inertia. Now, a not uncommon cause of hæmorrhage is the *partial* detachment of the placenta before the uterus begins to contract. The only safeguards against flooding are either adhesion of the entire placenta, or firm contraction of the uterus, its cavity being perfectly empty. Both these points are wanting when hæmorrhage occurs from partial separation of the placenta during an uncontracted state of the uterus. The blood flows through the uterus unimpeded, and escapes out of the uterine sinuses lately covered by the detached portion of the placenta. The healthy afterbirth is so loosely connected to the uterine wall, that very slight disturbances may give rise to its partial detachment—*e. g.*, exertion of the patient; coughing; the application of strong or unequal pressure on the uterus during the absence of contraction; contraction of only a small portion of the uterus; and premature traction on the cord. Then, again, everything

that increases the period of suspended action, or produces inertia, will indirectly make a woman liable to flood from the above cause—such as rapid delivery; exhaustion; pulling the infant away after the birth of the head, instead of allowing its expulsion by the uterus, &c.

*Diagnosis.*—Externally, the uterus is found large and *soft*, and the patient has no after-pains. On internal examination, the interior of the cervix is felt perfectly flaccid; and when the placenta is situated in its normal position, the insertion of the cord will be out of reach. The hæmorrhage generally comes on suddenly, and a large quantity of blood may be lost in a short space of time; sometimes, almost before we are aware of the existence of the complication, a goodly stream will have wended its way as far as the knee. When there is total absence of uterine contraction, we have no means of ascertaining whether the portion of the placenta still undetached is morbidly adherent or

not, until the hand is introduced for its removal.

*Treatment.*—The object to be attained is to make the uterus contract, and so detach the whole of the placenta. Apply firm and equable pressure on the uterus with both hands. This simple treatment is, in many cases, quite sufficient; the flooding is at once stayed, uterine contraction gradually comes on, and on making a vaginal examination, the placenta will be found lying detached at the upper part of the vagina. It may then be removed by a continuance of external pressure or by traction. If pressure does not succeed, a dose of ergot should be administered, and cold applied in conjunction with pressure. Dipping the hands in cold water is the best way of applying these two remedies in such cases. If the placenta still remains attached, and hæmorrhage continues, no further time ought to be lost; the hand should be introduced, and the placenta removed.

I may here conveniently discuss the question, as to how long we should wait in cases of retained placenta, from whatever cause, before—removing it by the hand. This depends a great deal on the absence or existence of hæmorrhage. If the flooding occurs rapidly and to an alarming extent, and firm pressure does not succeed in stopping it in a few minutes, the introduction of the hand should be at once undertaken; if the discharge is more moderate, a longer time may be allowed to elapse, and other remedies tried first—as cold and ergot. In cases where there is no loss, or so little as not to be worth consideration, we may wait half an hour. If the placenta has not separated in that time, no good will be derived by waiting any longer.\* Some obstetric authorities advise the delay of an hour, or an hour and a half. I am afraid, however, they do not practise what they preach; they recommend

\* Since these pages were first published, a paper *On the Management of the Third Stage of Labour*, was read by Dr. Eastlake, at a meeting of the Obstetrical Society of London; and I am pleased to find from the report of the discussion that I do not stand altogether alone in this opinion.

that delay in their anxiety to prevent inexperienced hands from doing harm; and I doubt very much whether, in their own practice, they find it expedient to wait so long. If we can avoid the introduction of the hand, of course that is a great point gained; but when we fail to detach the placenta in half an hour, we shall, most likely, have to introduce it sooner or later; and for the reasons I shall now mention, the early removal of the placenta by the hand diminishes very much the difficulties of, and objections to, that operation.

If the retention of the placenta be due to inertia, it will generally be accompanied by hæmorrhage before the child has been born thirty minutes, from a portion becoming detached by the pressure applied externally. I think all will agree with me as to its advisability in cases where the flooding is present. There is no remedy which will overcome the inertia so promptly as peeling off the placenta with the hand.

If the cause of the non-detachment be morbid adhesion, it is still more important to remove the placenta early, because, after a time, the uterus failing to detach and expel it, contracts upon it so firmly, that passing the hand through the os into the uterus becomes no easy matter. After labour the os rapidly contracts.

Another source of difficulty in removing the placenta, when the uterus is firmly contracted, is the limited space the hand has to work in. About three weeks ago I was called to assist in a case of adherent placenta. The child had been born more than an hour. The first difficulty I experienced was in getting the hand through the contracted os; then the uterus was so thoroughly contracted that the hand completely occupied its cavity. I was some time before I succeeded in detaching the whole of the placenta, on account of the movements of the fingers being seriously interfered with. Quite recently I was asked to assist in a case of twins. The

first child had been born an hour. The second was presenting with the breech, and its delivery was pretty readily effected. About five minutes after, uterine contraction recommenced, and recurred several times in the course of half an hour. The uterus externally was large and hard. The vaginal examination proved that the placenta were not detached; and as there was no hæmorrhage, it was pretty clear that they were not even partially separated. On passing my hand into the uterus, I found that the two placenta covered a very large space, from the fundus to within an inch of the os, and they were entirely adherent. If I had allowed an hour to elapse before attempting their removal, I should have met with the same difficulties as in the first case, for even in half an hour the uterus had contracted pretty firmly.

The sooner the operation is done, the less suffering does it produce. The pressure of the head on the soft parts in its passage through the

pelvis has so numbed their sensibility, that, if the hand is passed into the uterus immediately after delivery, it gives rise to little or no pain. The sensitiveness of the vagina and vulva gradually returns.

When I come to speak of irregular or hour-glass contraction, I hope to show that the early removal of the placenta may in some cases prevent that undesirable complication.

The detachment of the placenta is easily effected if its retention is due only to suspended action, or to inertia of the uterus. The portion of the placenta which has become detached should be searched for, and the fingers placed between it and the uterus; the rest may be then separated by a combined forward and side-to-side movement of the fingers. The uterus must be steadied outside by the right hand of the operator, passed between the thighs of the patient. The hand and the placenta should not be removed until we are certain that the whole



has been detached, and contraction of the uterus has set in.

In illustration of hæmorrhage produced by partial detachment of the placenta during the suspended action of the uterus, I shall give notes of two cases :—

CASE I.—A. R., æt. twenty-two, primipara, was delivered of a male infant after a labour of ten hours. I had but just separated the child from the mother when severe flooding set in. For a short time the blood issued from the vulva like water from a pump. The uterus externally was large and soft; and on internal examination, the funis was felt passing through the os, its insertion being quite out of reach. I applied strong and continued pressure with both hands over the fundus and sides of the uterus; good contraction soon followed; and on making another examination, a portion of the placenta was felt protruding into the vagina. It was then removed, partly by external pressure and partly by traction. The uterus contracted firmly, and no further hæmorrhage occurred.

The following case I briefly referred to before, in Precaution 1.

CASE II.—I was called to attend this woman in her second labour, at eleven p.m. The head was presenting, and the os

was the size of a florin. About half an hour after, I was obliged to leave her to attend another case. At a quarter-past one, her husband came to say that the child was born, and hoped I would come immediately. I could not at that moment leave the second patient, as the placenta was not delivered. Shortly after, the husband came again, and said I must go with him, as he thought his wife was dying. On entering the patient's room, I thought at first she was dead. There was not a vestige of colour in her face or lips, her eyes were half closed, and she lay perfectly motionless. I spoke to her and asked how she felt. She very faintly whispered, "I feel so faint; I can't see." On examining the uterus, I found it as large as if she had not been delivered at all. The first thing I naturally asked for was brandy, and the mother of the patient handed me over a bottle containing about an ounce and a half, at the same time saying that it was all they had in the house. This information staggered me, for it being then the middle of the night, I knew no more brandy could be obtained without great difficulty. It seemed to me impossible that this small quantity of brandy would prove sufficient to rally the patient; not only was she in a most dangerous state of depression from loss of blood, but the very remedy I should have to employ, in order to stop the hæmorrhage, would tend for a time to increase the shock. However, it was no use standing looking at the patient—something had to be done. The husband was sent out immediately to get some more brandy. I then rapidly discussed in my mind

which of two modes of treatment I should follow in this case. Would it be better first to rally the patient, and wait until more brandy could be obtained before proceeding to remove the placenta and the elots ; or had I better at once remove the contents of the uterus, and rally her at the same time ? The first plan was uncertain : I might have rallied the patient, but it would have been only temporarily ; and if I could not have got any more brandy in a short time, which was very likely, I should have had to remove the placenta and elots without any means of counteracting the shock of the operation. I determined at once to remove the uterine contents, and to order the nurse to make the patient drink the brandy neat at the same time. About half the placenta was still attached ; on its removal, with a large quantity of elots, the uterus contracted firmly to the size of a man's fist, and the hæmorrhage fortunately was at once arrested. By this means, I killed two birds with one stone ; the patient was rallied, and the flooding stopped. It turned out, after all, that I had to leave the patient in order to find a policeman to assist me in getting more brandy. The patient was in a very dangerous state for several hours, fainting away every few minutes ; but she ultimately recovered.

There is another plan of treatment which some might ask why I did not try. Why did I not attempt to expel the placenta and clots by

external pressure? Because, the uterus was so distended, that even if I had succeeded in expelling the contents by pressure, as much depression might have followed. It was most probable, however, that this means would have been only partially successful; it might have expelled some of the clots, but not have entirely emptied the uterus. In that case, the patient would have been disturbed without any good resulting; a fresh attack of hæmorrhage might have come on; time would have been lost, and the introduction of the hand would have been required after all. In a case where the patient is, as it were, between life and death, trifling remedies are almost as bad as none at all.

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#### PARTIAL SEPARATION OF THE MORBIDLY ADHERENT PLACENTA.

I shall not enter into the pathology of morbid adhesion of the placenta, as in our present state

of knowledge it is not of any practical importance so far as the treatment is concerned. If we were able, during pregnancy, to ascertain the existence of disease of the placenta, we might perhaps, by appropriate treatment, prevent it from going on to morbid adhesion. Abdominal pain and constitutional disturbance are the symptoms which are said to accompany inflammation of the placenta, but they are not pathognomonic of that affection, as they are so often present during the latter months of pregnancy from causes quite unconnected with disease of the placenta. Most practitioners must have observed that women not unfrequently suffer during gestation from pain in the uterine and lumbar regions, with the pulse quickened, and yet after delivery the placenta comes away easily, and appears perfectly healthy. Sometimes, also, disease of the placenta occurs so insidiously that it does not give rise to any symptoms.

*Diagnosis.*—The uterus externally is felt large, and alternately *hard* and soft. The patient complains every now and then of “pinching pains” in the lower part of the abdomen. On making an internal examination, the insertion of the cord cannot usually be reached, showing that, notwithstanding the contractions of the uterus, the placenta is still attached. If we draw upon the cord firmly, the patient complains of pain, and on letting it go, it is felt to recede. During uterine contraction, the interior of the cervix just within the os uteri will be felt hard, like gristle. The amount of hæmorrhage depends chiefly upon the extent of the separation. Should the discharge be slight, we may be pretty sure that nearly the entire placenta is adherent. It depends partly also on the amount of uterine contraction. The hæmorrhage is most profuse when there is inertia of the uterus, as well as partial morbid adhesion of the placenta.

*Treatment.*—This is similar to that of

hæmorrhage arising from partial separation of the healthy placenta. When the hæmorrhage occurs within a few minutes after delivery, we cannot be certain that the placenta is *morbidly* adherent; because in that short time uterine contraction will either not have commenced, or only have occurred once or twice. We should therefore, in such cases, first try firm pressure. If, on the other hand, flooding does not come on until several strong contractions of the uterus have taken place without the afterbirth becoming totally detached, the treatment may be commenced by introduction of the hand, and removal of the placenta. This is one instance in which ergot not only does no good, but does harm. It increases the difficulty of the operation, by making the uterus contract firmly on the placenta, and it tends sometimes to complicate the case by setting up irregular or hour-glass contraction. When the placenta is morbidly adherent, it is not so easy to detach as when it

is healthy. The side to side movement of the fingers does not generally answer; it must be effected by flexing and extending the fingers. If possible, the whole of the placenta should be peeled off *in one piece*; because, on its removal, we can then tell with a considerable degree of certainty whether we have taken away the whole of it or not. In some rare instances the placenta has to be removed in pieces, and in that case we can never be quite certain that we have not left a piece behind.

*Illustrative Cases.*—In the following instance there was suspension of the action of the uterus, as well as adherent placenta:—

CASE I.—Mrs. B., æt. twenty-one, primipara, had a very lingering labour. A short time after the delivery of the infant, I found the pulse rapid and weak. On passing my hand under the clothes to make a vaginal examination, I came in contact with a large mass of clots, lying in the bed. The root of the placenta could not be felt. I compressed the uterus with the hand, but no good was derived. The blood poured away so fast, that in a few minutes I could hardly feel the pulse. I ordered the mother of the patient to administer brandy freely, while I removed the placenta with the hand.



About two-thirds of it was attached and strongly adherent. Afterwards for a time, and as a precaution, the uterus was kept under command by the hand and no further loss occurred. The patient was very feverish for a few days, but ultimately did well. I may state, as worthy of note, that during the labour, the mother of the patient expressed a hope that her daughter would not flood after labour, as she always did after her confinements. She said she had nearly lost her life after each delivery from flooding, and, in each instance, it was only arrested by detaching the placenta with the hand. I know that some practitioners believe in the hereditary predisposition to hæmorrhage; but the above instance looks as if there might also be an hereditary tendency to disease of the placenta. It would be interesting to know the subsequent obstetric history of this patient.

CASE II.—Mrs. T., æt. thirty-five, mother of eight children. The placenta was adherent in four of her previous confinements. For the last six months of the present pregnancy, she has felt a constant pain in the right iliac region. She was attended in her labour by one of the students of the Queen's Hospital. He says that the labour was quite natural, and that after delivery uterine contractions set in to detach the placenta. Severe hæmorrhage soon commenced. On examination, the insertion of the cord could not be felt. He applied pressure and cold, and gave brandy. In half an hour, he succeeded in arresting the hæmorrhage, and having waited ten minutes more, sent for me, as the placenta had not come away. When I arrived, the child had

been born one hour and forty minutes. Fortunately, there had not been any flooding for some time, but she was in a state of great prostration from what she had lost. On making an internal examination, I could not feel the insertion of the cord. I then introduced my hand and removed the placenta. The greater portion was adherent, Although there was no further hæmorrhage, she remained in a very feeble and dangerous state for three days, and her recovery was slow, but complete.

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#### IRREGULAR CONTRACTION—HOUR-GLASS CONTRACTION.

I have alluded to one form of irregular contraction which sets up hæmorrhage by separating a portion of the placenta. In this variety, only a small part of the uterus is contracting, while the rest is in a state of inertia. Besides this simple form of irregular contraction, we have others in which the circular fibres of the uterus are chiefly implicated. The os uteri sometimes contracts rapidly after labour, and prevents the detached placenta from being expelled or

withdrawn by traction. When flooding occurs in such cases, it is on account of the presence of the placenta not allowing the uterus to contract to its minimum. In other instances, the circular fibres of the uterus, at any point above the os uteri, and below the fundus, contract so as to divide the cavity into two compartments. The hæmorrhage, in hour-glass contraction, depends very much upon the position of the circular constriction. If the placenta is situated at the fundus, the nearer the contraction is to that spot the less will be the hæmorrhage; and the nearer it is to the os uteri, the more profuse will be the flooding. When the constriction is very high up, it cuts off all the supply of blood from below, and renders the upper compartment so small, that blood cannot escape, on account of the placenta filling it, and acting as an efficient plug to the uterine sinuses. When the hour-glass contraction is situated near the os uteri, the blood from the spermatic and uterine arteries

flows on to the sinuses unobstructed, into the large upper cavity.

Hour-glass contraction is generally attributed to the effect of ergot, or premature traction of the cord. I believe, in the majority of cases, its primary cause is morbid adhesion of the placenta, and that neither ergot nor traction on the funis will produce it, unless that condition of the placenta also exists. The uterus contracts to detach the placenta, and failing to do so, spasm or cramp of a certain layer of muscular fibres is excited. Ergot and traction of the cord would both stimulate the uterus to contract more forcibly upon the adherent placenta, and in that way would be more likely to induce spasm.

*Diagnosis.*—If the hæmorrhage is due to simple retention of the placenta by contraction of the os, it will be ascertained on making an internal examination. The os will be found contracted, the cervix hard, and the insertion of

the cord will be felt through the os. Moderate traction on the cord will fail to draw the placenta through. The uterus externally feels moderately contracted. The diagnosis of hour-glass contraction, until the hand is passed into the uterus, is very unsatisfactory. Some say that the constriction can be felt through the abdominal walls, while others hold the reverse opinion. It does not matter much, because the hæmorrhage is not caused by the hour-glass contraction, but is due to the partial separation of the adherent placenta. The treatment of the case is to get away the placenta. We pass our hand into the uterus with that object, and then we find the additional complication.

*Treatment.*—When the os is contracted, it must be dilated gently by the fingers, and the uterus emptied of its contents. I have a few times treated these cases by applying strong traction on the cord, at the same time getting the nurse to press on the uterine externally.

The os has gradually yielded and allowed the placenta to pass through. I think the first plan is safer, because we cannot be quite sure that a portion of it is not still attached; and from the force required in pulling the placenta through, there is danger of breaking off the cord.

In hour-glass contraction, the hand must be insinuated in the same way through the constriction, and the placenta separated by the fingers. No one can have an idea of the difficulty there is in passing the hand through an hour-glass contraction until they have tried it. The more you try to dilate it, the more it it seems to contract. The administration of chloroform very much facilitates the operation. If, after steady perseverance for some time, the contraction will not allow the whole hand to pass, the placenta must be picked away in pieces by as many fingers as can be passed through.

I have seen two instances of hour-glass

contraction, but as there was no flooding in either, I shall not mention the particulars. The placenta in both cases was shut up and firmly compressed in a small compartment of the uterus, so that the uterine sinuses were very efficiently plugged. The following case is an example of hæmorrhage, resulting from retention of the placenta by a firm contraction of the os uteri:—

The patient was attended in her fourth labour by a pupil of the Dispensary, He sent for me in consequence of retention of the placenta, and flooding, which he was not able to control. The child had been born three quarters of an hour when I arrived. On external examination, the uterus was felt unusually large and was tender to the touch. Internally, the insertion of the cord could be readily made out just within the os, which was so contracted, as barely to allow two fingers to pass through. The pupil stated that he had tried firm traction, but with no effect, except that of aggravating the discharge. If the case had been in my own hands from the commencement, I should most likely have first tried drawing the placenta through by traction on the cord; but the patient had lost a great deal of blood, and from the size of the uterus I concluded there were clots

*in utero*, besides the afterbirth. Therefore, I thought it advisable to introduce my hand. The os was gradually dilated, and the hand passed through. The placenta was lying loose in the lower part of the uterus, and above it was a mass of clots. On their removal, the uterus contracted firmly, the tenderness disappeared, and the flooding ceased.

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### INVERSION OF THE UTERUS.

This dangerous accident fortunately happens very rarely. It sometimes occurs spontaneously, but is more commonly due to mismanagement in the delivery of the placenta. It is generally attributed to premature traction on the cord, while the placenta is still attached. There are two instances on record in which, apparently, strong pressure externally inverted the uterus. Mr. Ingleby traced its occurrence on two occasions to unskilfulness in separating the adherent placenta. It may also be produced by the cord being unusually short.

*Diagnosis.*—Immediately on the occurrence of



inversion, dangerous constitutional symptoms exhibit themselves, the result of nervous shock and loss of blood—such as syncope, nausea or vomiting, and a quick and feeble pulse. The face is pale, and covered with cold clammy moisture. The patient also suffers from constant and violent forcing pain in the hypogastric and pelvic regions. The symptoms of sudden collapse would not of themselves be sufficient to indicate the occurrence of inversion of the uterus, for they might be due to other causes, as rupture of the uterus or vagina preceding the birth of the child; an overwhelming loss of blood; simple but severe nervous shock consequent on the exhaustion and sufferings of labour; the existence of a large polypus of the uterus hanging in the vagina; or an immense thrombus of the vulva. The nature of the accident is very soon cleared up on making an external and internal examination of the uterus. Generally, the uterus cannot be felt at all in the supra-pubic region. When

the inversion is only partial, a portion of the uterus may be felt, as in an instance which came under Mr. Ingleby's observation. In all cases, however, the roundness of the fundus will be absent. On proceeding to make a vaginal examination, we may find a tumour protruding from the vulva; and if the placenta is attached to it, the nature of the case is plain at once. The inversion may not have taken place until after the removal of the placenta; in that case, we can tell that the tumour is the uterus by its sensibility. The portion of the tumour to which the placenta was attached will be noticed to be rough, while the rest is smooth, and blood will be seen issuing from the uterine sinuses. The fact of a globular tumour lodging in the vagina or protruding externally, coupled with the absence of the uterus in the hypogastric region, and the severity of the constitutional symptoms, ought to be quite sufficient, in most instances, to enable us to diagnose inversion of the uterus.

*Treatment.*—If it can be effected, the uterus should be immediately replaced; and it seems to be a simple operation when undertaken soon after the occurrence of the accident. Every moment deferred increases the difficulty of the operation. The inverted fundus should be grasped and compressed firmly by the hand, and pressed slowly upwards. If the operation is to be successful, the tumour will be felt to yield and glide upwards to a certain point, when the fundus will spring suddenly away from the hand and resume its proper position.

When the uterus is inverted with the placenta still attached, should the latter be first removed, or should the uterus be replaced with the placenta *in situ*? Opinions seem pretty equally divided on this point. If I were to meet with a case of inversion, I should certainly feel disposed, first, to return the uterus, and then to separate the placenta. By removing the placenta first, I should not be afraid so much of increasing the

hæmorrhage, as of causing the uterus to contract; and, in consequence, rendering its return more difficult. If the uterus could not be replaced with the placenta attached, I should then of course remove it, and make another attempt. In those cases in which an attempt to replace the uterus fails, the hæmorrhage must be arrested by applying cold to the inverted organ itself. Probably, pushing the uterus into the vagina would also assist in arresting the flooding. The walls of the vagina would act as a plug to the uterine sinuses, and irritate the uterus to contract. The collapse due to the accident and loss of blood must be combated by the free administration of stimulants.

*Illustrative Cases.*—As I have not met with a case of acute inversion of the uterus, I shall quote one from the *Glasgow Medical Journal*, and another from Ingleby's essay on the subject:—

CASE I.—Dr. Kelly, of Glasgow, delivered the patient.

a primipara, after a lingering labour, by the forceps. As soon as the head was extracted there was a large gush of blood. He then goes on to say:—"I then quickly asked the attendant at the bedside to lay her hand upon the belly, and without a moment's hesitation she somewhat rashly and roughly pressed both hands *into*, rather than *on*, the belly (it may be observed that in her right hand she held a towel, so that her fist was closed). This firm pressure seemed to arrest the flooding, and to have the effect of producing pain, as the body of the child (living) was expelled with very slight manual help; but again hæmorrhage ensued. with sighing, restlessness, pulse extremely weak, and that exsanguine aspect, as well as general coldness of the whole surface of the body, which indicates imminent peril. Having given her a quantity of whiskey, and made her head level with her body, I passed my finger towards the vulva, which immediately touched what I supposed, and even considered the placenta; but after tying the cord and separating the child from the mother, I laid my hand upon the belly, and finding no hard or rounded uterus, the thought of what might be at once flashed across my mind. Accordingly, to my extreme regret, I found lying upon the bed this soft mass formerly felt; and beneath, the firm, hard, oval, unmistakable, entire inverted uterus, protruding quite externally. At this point, observing the dangerous condition of the patient, both from the shock of such an accident and from the exhausting loss of blood, I requested the assistance of my friend Dr. Tindal, who I was aware,

had had a similar case ; and his attendance, I am happy to say, was prompt. Our first thought was that it would be best, and we even endeavoured, before returning the displaced organ, to remove the placenta. To distinguish, however, placenta and walls of uterus, either by appearance or feel, and to separate the former with impunity to the latter, so firmly adherent whilst covered with blood. was a more difficult and hazardous task than one may feel disposed to credit, and than we were willing to risk. With right hand doubled up, therefore, I pressed steadily and firmly against the fundus, or most dependent part of the whole mass, which very soon began to yield and glide upwards, followed by the hand, until complete reduction and normal restoration was effected. The placental mass was now speedily and easily peeled off, in doing which the internal irritation re-excited the contractile powers of the uterus, and the retained placenta was expelled, with which the hand was withdrawn. Thereupon, more whiskey was given, which soon rallied her from the shock and loss of blood." She recovered without a bad symptom.

II.—"Mrs. — was delivered of her first child on Thursday night, the 17th. The practitioner informed me (Mr. Ingleby) that, immediately on the removal of the placenta, syncope took place, followed by profuse hæmorrhage, which subsided a little the next morning. She was harassed by frequent vomiting, pain in hypogastrio, and an occasional increase of hæmorrhage, until the succeeding Thursday night, the eighth day after delivery, at which time I was

requested to see her. I found her nearly without pulse, exsanguine, comatose, delirious on being roused, and apparently moribund. On laying my hand over the pubic region, the uterus, which felt very hard, presented two singular features, its form being almost conical, and its circumference particularly small. I ascertained that the vagina was filled by a very bulky round tumour, which almost reached the os externum, corresponding to the fundus uteri, and resembling a very large-sized polypus. On carrying the finger as high as I could possibly reach, I distinctly felt the os uteri encircling the tumour like a firm stricture. It was clearly a case of inversion of the uterus, the body of the organ being above the brim, and the os internum occupying the centre of the inversion. Under the impression that the sufferer was dying, her relations resisted for some time our earnest entreaties to be allowed to make an effort for her relief. Yielding partly to persuasion and partly to remonstrance, they at length assented. In about five minutes the stricture gave way to the compression which was employed; the left hand gained full possession of the uterine cavity, the fingers being distinguished through the abdominal coverings by means of the right hand placed over the hypogastrium. A piece of placenta was felt adhering to the body of the uterus, but allowed to remain, the organ being then perfectly flaccid; and neither the presence of the hand within its cavity, with friction and a cold napkin over the hypogastrium, nor the administration of ergot and diffusible stimuli, produced the slightest contrac-

tion. The hand was therefore withdrawn, and the stimulating plan persisted in during twelve hours before the pulse could be distinguished. The return of the pulse was almost immediately followed by the return of uterine contraction and the expulsion of the piece of placenta, being about one-fourth of the entire mass, in a highly-decomposed state. The following day the patient was wonderfully improved, and gradually recovered."

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### DISRUPTION OF THE PLACENTA.

In removing the placenta either by traction on the cord or by separation with the hand, a portion sometimes is left behind attached to the uterus. It results, in most cases, from mismanagement either from premature traction on the cord before the placenta has become totally detached, or from an unskilful and hastily effected separation by the hand. In a few instances, however, a portion of the placenta may be left *in utero* without any fault on the part of the medical attendant. Sometimes a small part of the placenta remains attached to



the uterus, while the rest hangs loose in the vagina, and if the cord happens to be implanted low down, its insertion will be felt with more than usual facility. Most medical men would, in such a case, effect the removal of the placenta by traction on the cord; and if the attached portion were very adherent, it would be left behind. It shows the importance of making ourselves quite certain of the total detachment of the placenta before proceeding to deliver it by traction, and also of examining it carefully after its removal. Then again, we sometimes meet with a very rare form of placenta, consisting of two separate pieces merely connected with each other by the membranes. Traction on the cord would be very likely to tear through the so connecting membranes, and then the largest piece, to which the cord is attached, would come away, leaving the smaller *in utero*.

In other cases, a small piece of the placenta may be so adherent to the uterus, that it cannot

be separated, and has to be left behind. The hæmorrhage in disruption of the placenta is generally very violent for the first day or two; then gradually assumes the form of draining; and about the fourth day the discharge becomes offensive. Sometimes, the flooding does not come on until the third day or later; usually, however, the discharge from the first is very free. The amount of loss depends a great deal upon the size of the piece retained, and the degree of uterine contraction.

*Diagnosis.*—If the case has been attended by an experienced practitioner, the diagnosis will generally be pretty easy. There will probably have been some difficulty in the delivery of the placenta, and on examining it a portion will be found to be absent. The uterus externally is more or less *tender* on pressure, and the patient complains frequently of after-pains. A tender condition of the uterus, with flooding soon after delivery, is a most valuable symptom. It indicates

that there is a foreign body in the uterus—either a piece of placenta, clots, or membranes. In cases where there have been clots in the uterus, I have found that organ sometimes even more tender and irritable to the touch than it is in hysteritis, but, on the removal of the clots, the tenderness has all disappeared, and the uterus could be freely handled. The diagnosis may be more difficult if the case has not been seen for some hours after the accident has happened, especially if the nurse has got rid of the expelled portion of the afterbirth, and the midwife or attendant of the patient, from ignorance of the fact, or from a desire to conceal any want of skill, gives us no information which may lead to suspicion of disruption of the placenta. That the hæmorrhage is due to the presence of some foreign mass in the uterine cavity will probably be clear, from the constantly recurring after-pains and the large and tender condition of the uterus. If the case has not been seen until some days

have elapsed, besides the 'symptoms already mentioned, there will be in addition those resulting from decomposition of the placenta, such as irritative fever and an offensive discharge. The offensive character of the flow may be due either to the decomposition of clots, or of membranes, or of a piece of placenta; but it affords a clue to the proper treatment, as it shows that there is something in the uterus which ought to come away.

*Treatment.*—The disrupted piece of placenta should be removed at any period after labour, if it can be effected without much hazard to the patient. The earlier the attempt is made after delivery the more likely it is to be successful. In a few hours the uterus may be so contracted that the whole hand cannot be passed into its cavity without risk of injury; in that case an attempt should be made to remove it by means of one or two fingers. If it cannot be got away, we must then have recourse to means which will

restrain the discharge until the placenta is naturally expelled or decomposes away. Ergot is a remedy which I should not give in all cases of this kind. I should certainly administer it, if the contractions of the uterus were weak and at long intervals, but not if the after-pains were very violent and almost without intermission. To restrain the discharge, the following remedies may be tried pretty much in the order stated until success is obtained:—Pressure on the uterus externally, combined with cold freely applied to the abdomen and vulva; ergot, in some instances; intra-uterine injection of cold water; intra-uterine injection of a solution of perchloride of iron;\* and compression of the abdominal aorta. If, after the first out-burst of hæmorrhage,

\* When these pages were first published, in speaking of the intra-uterine application of astringents, I suggested the taking-up into the uterus, enclosed in the hand, of a piece of sponge dipped in a saturated solution of perchloride of iron, and securing the fundal portion of the uterus with it. Dr. Barnes has since stated that he has used the intra-uterine *injection* of a solution of perchloride of iron several times with success, and this being a better plan of applying that astringent (as it might be used in cases in which the hand could not be passed into the uterus) I have substituted it for the other.

a slow draining goes on, an astringent mixture may be taken with advantage. Plugging the vagina may be had recourse to in cases in which the flooding is serious two or three days after labour, the uterus being pretty well contracted, and other remedies having been first tried and found to succeed only for a time.

*Illustrative Cases :*

I.—Mrs. P——, æt. 26, residing in Sherlock Street, was delivered of her second child, after an easy labour, by Mr. H——, a midwifery pupil of the Dispensary. According to his statement, a free loss of blood came on soon after delivery, and he applied traction upon the cord, which, without much force being used, came away with a portion of the placenta attached. Recognising the nature of the accident, Mr. H. immediately sent a cab for me. I found the patient presenting the usual signs of having sustained a severe loss of blood. On examining the portion of the placenta which had come away, it was clear that at least three-fourths had been left behind. I then introduced my left hand into the uterus and brought away the rest of the placenta, which was totally adherent. No further hæmorrhage took place, and the patient recovered after a somewhat tedious convalescence. I have since attended Mrs. P. as a private patient in another confinement. After delivery I had to introduce my hand and remove the afterbirth, which

was again extensively adherent. She made a very good recovery this time as I did not allow her to lose very much before I effected the removal of the placenta.

CASE II.—This case was attended by a medical friend a short time back. It is related in his own words : “ S. A., æt. nineteen, married, a small-made healthy-looking girl, was confined of her first child after a lingering labour, owing to the pelvis being rather narrow. After the birth of the child I as usual passed my hand over the uterus, and found it was contracting fairly. I then made gentle, but firm traction on the cord, having felt its insertion within easy reach of the finger, as well as the mass of the placenta round it. The placenta moved easily halfway down the vagina, and then would come no further. I then let go the cord, and compressed the uterus externally with my hand. After a few minutes, I again made firm traction on the cord, an assistant at the same time applying pressure to the uterus. Feeling the mass of the placenta with the insertion of the cord so far down in the vagina, I used more forcible traction than I would otherwise have done. It then, as if overcoming a slight obstruction, came away with the membranes. Hæmorrhage came on pretty severely, which I succeeded in checking by external pressure and ergot, but only temporarily. The uterus enlarged again, and, as a consequence severe flooding followed. The hæmorrhage was for a second and third time checked by pressure and ergot, but only for a short period. The flooding had by this time deprived the patient's cheeks of all their colour, and my efforts to stem

it having failed, I passed my hand into the uterus and found a piece of the placenta, of the size of half an orange, firmly adherent. Of course, I removed this with my fingers, when the uterus immediately contracted well, expelling my hand, with some clots. From this time, no more loss occurred, and the patient recovered without a bad symptom."

CASE III.—The following interesting fatal case is quoted from Dr. M'Clintock's *Clinical Memoirs on Diseases of Women*, page 339 :—"This case I saw in the autumn of 1846, in consultation with a practitioner of this city. The patient, a short, healthy woman, was the wife of a butcher, living in the neighbourhood of the Castle Market, and had been confined of her sixth child seven days before my visit. The history I got was as follows :—The child had presented with the feet ; hæmorrhage took place soon after its birth ; and on introducing the hand for the placenta, this was found so intimately adherent to the uterus, as to render its removal difficult and incomplete, some portions remaining behind. She went on, however, most satisfactorily until the fifth day, when she had a sudden and profuse dash of hæmorrhage, which recurred again and again at intervals. At the time of my visit (for I only saw her once), she was much blanched and nearly pulseless, but no discharge of blood was then going on. Late in the afternoon of the ninth day, there having been some loss in the interval, the hæmorrhage broke out afresh with great violence, and before assistance could be obtained she was a corpse. In this instance, it is remarkable that the flooding was the



only untoward effect of the retention, no fever or local irritation having been induced. At the time of my seeing her she had a plentiful secretion of milk. I hesitate not to say that this woman's life might have been saved by the timely use of the tampon."

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### RETENTION OF THE MEMBRANES.

A small portion, or the whole of the membranes may be torn away from their attachment to the placenta, and left either partially attached to the uterus, or loose in its cavity. The accident is very liable to occur, if the placenta be pulled quickly away, or if it be suddenly expelled into the bed during a strong contraction. The best way of bringing the membranes away entire is stated in the eleventh precaution, and it should be followed out in every case. Retention of the membranes sets up hæmorrhage by preventing the due contraction of the uterus. In some instances, the flooding is violent; more often it occurs in the form of draining, which continues

for several days. Hæmorrhage is generally the first, but not the only danger incurred; after a few days, as in disrupted placenta, irritative fever sets in from decomposition of the retained mass.

*Diagnosis.*—If, during the extraction of the placenta, a portion or the whole of the membranes are felt to tear off, the cause of the hæmorrhage will at once be evident. The next most certain indication is the absence of the membranes on examining the placenta. If the case has not been seen for some hours after delivery, and the placenta has been destroyed, we must be satisfied with knowing that the hæmorrhage is due to the presence of something in the cavity of the uterus, from the frequently recurring after-pains, and the more or less tender condition of the uterus.

*Treatment.*—The retained membranes should be removed, if possible without much risk, by the introduction of the hand or by means of one

or two fingers. Although, in most cases, the membranes are lying detached from the walls of the uterus, they cannot be expelled by external pressure as clots sometimes may be. The absence of the membranes from their usual attachment to the placenta is not a certain sign of their being retained, unless there is also hæmorrhage; for I have seen several cases where the placenta has come away without the membranes being attached to it, and yet the patients have recovered without a single bad symptom. I do not pretend to be able to explain in all the cases what has become of the membranes; but the uninterrupted recovery of the patients I have observed so often, that, in consequence, I now carry out the following practice:—If I feel convinced that the membranes have been left in the uterus, from having felt them first resist and then break off, I do not wait for flooding to begin, but introduce my hand forthwith, and remove them; if, on the

other hand, I only suspect that the membranes are retained from their not having come away attached to the placenta, I do not consider myself justified in introducing the hand until some untoward symptom, such as hæmorrhage, presents itself. When the membranes cannot be removed, the same treatment should be followed as for disrupted placenta. A vaginal examination should be made daily, and with care, to see whether any portion of the membranes is protruding through the os uteri; if so, an attempt should be made to remove it by slowly drawing down the protruding piece, either with the fingers or a speculum forceps.

*Illustrative Cases:*

I.—I was called to see this patient by one of the pupils of the Dispensary, on account of post-partum hæmorrhage, to arrest which he had tried cold, pressure, and ergot, with only temporary success. On external examination, I found the uterus large and tender. The patient was constantly complaining of after-pains, so that it was clear that there was no inertia, and from the bulky and painful condition of the uterus that there was something within

that ought to come away. On examining the placenta, it was found to be perfect, but the entire membranes were absent. I then past my hand into the uterus, and removed quite a handful of membranes. The hæmorrhage was arrested, the patient felt immediate relief from the after-pains, and recovered speedily.

The following occurred in my own practice :

CASE II.—Mrs. L., æt. twenty-one, a fine healthy woman, was delivered of her second child after an easy labour of six hours' duration. The placenta came away by traetion in about fifteen minntes, and I allowed it to drop as usual into my left hand. I then passed the index finger of the right hand to coax down the membranes. The end resisted considerably, and, notwithstanding every eare, tore off. As the pieee left behind was small, I thought it best at the time to leave it alone, but very sorry I was afterwards that I did not remove it. For the first three days the loss of blood was very great ; a constant draining kept on during that time, with the expulsion every now and then of small clots. Two days after labour the discharge beecame offensive, and was of course aceompanied by irritative fever. I made a vaginal examination every day, but could feel nothing of the retained pieee of membrane until the fourth day, when I found it lying at the upper portion of the vagina, and it was easily removed. The constitutional disturbanee did not abate for some days after, and it was nearly a month before she left her bed. She was fortunately a very strong

young woman, and could spare a considerable loss of blood, or otherwise, I doubt whether she would have fared so well as she did.

Having now considered the various causes of post-partum hæmorrhage occurring before the delivery of the placenta, or membranes, I shall next treat of those which occur after the birth of the placenta. Before commencing the subject of inertia, it will not be uninteresting to study the means which Nature employs, in ordinary cases, to prevent the escape of blood from the uterine sinuses. The escape of blood through the uterine sinuses is said to be prevented partly by clots plugging up the open mouths of the veins, and partly by contraction of the muscular structure of the uterus. Some medical men set a high value on the little clots, and give strict injunctions to be careful not to dislodge them in any way. I must confess I have very little faith in their power to arrest the flow of blood. When the uterus is in a state of complete inertia,

I do not believe these clots have the slightest effect in preventing the escape of blood; and when the organ is in a properly contracted condition, they are quite unnecessary.\* Contraaction of the uterus, on the other hand, is an admirable means for preventing hæmorrhage after delivery. It is fully adequate for that purpose on account of the round-about way the vessels take through its structure before they arrive at the uterine sinuses. If the spermatic and uterine vessels were to pass directly from the abdominal aorta into the fundus, they would arrive almost at once at the open mouths of the veins, and the result would be, that the contraction of the small amount of muscular tissue, which the vessels traverse, would not prove sufficient to stem the force of the current of blood. The vessels, however, enter the uterus below the fundus. The spermatic vessels pass along the broad

\* Indeed they may prove a source of danger, for I believe puerperal fever is sometimes due to the decomposition of clots remaining in the mouths of the uterine sinuses.

ligament into the uterus, and then some of the branches ascend to the uterine sinuses, the rest descend to join the uterine vessels. The uterine arteries and veins enter the uterus at its junction with the vagina, and have therefore to traverse its whole length before they terminate in the sinuses. The blood having to flow through such a long maze of contractile tissue is liable at every step of its course to be arrested. It may be likened to the water of a canal which has to flow through a series of locks, by the closure of any one of which it may be prevented from going further. The blood in the uterine vessels flows through a multitude of living locks; if one should happen to be open, another a little further on will be closed. The chief portion of the blood is derived from the veins, as the arteries are small in calibre and in number. The veins of the uterus are peculiar, inasmuch as they run in planes one above the other, and have not the valves proper to veins in most other parts of the



body. At the point, however, at which the vein of one plane communicates with the vein of another, the lining membranes of the two form a sort of valve which, no doubt, after delivery assists in impeding the flow of blood towards the uterine sinuses.

In natural cases, the blood which circulates in the uterus at the commencement of labour is not expelled after delivery, but by contraction of the uterus is regurgitated into the abdominal vessels. This is gradually effected: a certain amount is regurgitated after the liquor amnii is discharged; still more with the contraction that expels the child; and the rest on the expulsion of the placenta. The very same contraction which, by expelling the child, removes the pressure from the abdominal vessels, transfuses into them the blood which previously circulated in the uterus, and thus prevents the bad effects which sometimes follow the sudden removal of pressure from large vessels.\* The only *truly*

\* This regurgitation theory is merely an opinion of my own, and is not to be considered at all as binding.

normal loss of blood after labour is that which comes away from the detached placenta; but the uterus very rarely contracts so perfectly as to prevent a small quantity of blood escaping from its vessels. Women sometimes lose a great deal after delivery without its affecting them in any appreciable degree, and this fact is brought forward by those who hold the opinion that a free discharge of blood after confinement is salutary. It is true that women can bear the loss of a considerable quantity of blood from the uterus better than at most other times, still, that is no proof of its propriety. In such cases, a large portion of the blood is not derived from the general circulation, but from that of the uterus. In the majority of cases, when women are confined with care, the amount of sanguineous discharge is very small, and they get up all the stronger from having a little extra blood transfused into them by the uterus.

## CHAPTER VI.

## INERTIA OF THE UTERUS.

IN our large towns, a temporary paralysis of the muscular structure of the uterus forms an important and common cause of flooding after labour. The hæmorrhage is sometimes most difficult to arrest, not only on account of the uterus obstinately refusing to contract under the application of remedies, but also because secondary causes are often mixed up with the inertia; for instance, clots are very liable to collect and distend the cavity of the flaccid uterus, and tend to keep up the flooding after the inertia has been overcome. Inertia of the uterus may be due to a general atonic state of the system; fatty degeneration of portions of the uterine muscular tissue; over-distention

of the uterus by twins or liquor amnii; exhaustion from a lingering or instrumental labour; artificial delivery between, instead of during uterine contraction in footling cases, or after the birth of the head of the child; or the hasty detachment and the removal of the placenta while the action of the uterus is suspended. Some of the worst cases of hæmorrhage from inertia are met with in those patients who flood after every confinement. \* The constitution of these women is essentially atonic. All the muscles are weak and flabby, and the other tissues are in a state of undue relaxation. Fortunately, "flooders," as such patients are called, are not very common. Many women lose freely after their confinements simply from want of care either on their own part, or on that of the medical attendant. I have attended several women, who in all their previous confinements lost a great deal of blood; but I believe many of these were not true

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flooders, for by using the precautions proper to natural cases, hæmorrhage did not occur in any of them. To some of them I gave ergot before the birth of the infant, but not to all.

*Diagnosis.*—It is extremely easy. The uterus, externally, is felt large, *soft*, but *not tender*. Pressure with the hand may bring on contraction, but it will be with the greatest difficulty; and when it does occur, it will be weak and of short duration. The patient does not suffer from after-pains. The absence of after-pains and of tenderness of the uterus sometimes obscures the diagnosis of other causes of hæmorrhage, if the case should be complicated by two or three—as inertia, and disrupted placenta; inertia and retention of the membranes; inertia and clots. When the sole cause of the hæmorrhage is disrupted placenta, or retention of the membranes, or clots, the tenderness of the uterus and the after-pains assist materially in simplifying the diagnosis; but if there be inertia of the uterus

as well, both those signs will be absent, and we may not be aware of the existence of another cause until, finding other remedies fail, the introduction of the hand is undertaken.

In some cases of hæmorrhage from inertia, the uterus will be noticed in its proper position for a moment; then suddenly it will vanish, and cannot be felt; after a brief interval, a gurgling sound will be heard, a quantity of blood will pour away, and the now contracting uterus may again be detected. The uterus, filling and emptying itself in this way, constitutes a very dangerous form of flooding, as an enormous amount of blood may be lost in a very short space of time.

*Treatment.*—In a few words, it is the routine treatment recommended in all obstetric works. In fact, the treatment for post-partum hæmorrhage has become routine, on account of the undue prominence which writers on midwifery have given to inertia, at the expense of the other

numerous and equally important causes, most of which are merely mentioned by name.

The remedies may be applied in the following order until success is obtained:—Strong pressure on the uterus with both hands; a dose of ergot as soon as possible, and a second and third dose, if required, at intervals of ten minutes; cold applied to the uterus by the hands dipped in cold water, or by wet napkins; cold at the same time applied to the vulva and lower part of the spine by wet napkins with the right hand; a draught of cold water. In many cases, cold, pressure, and ergot suffice to arrest the hæmorrhage; if not, the left hand may be next introduced into the uterus, and clots, or any other foreign mass, that may be in its cavity, removed, while pressure is applied externally by the right. Very few cases prove rebellious to the introduction of the hand, followed up by pressure and cold. If, however, the flooding should still continue, cold water may be injected

into the uterus, and the aorta compressed through the abdominal walls. In obstinate cases of inertia, the pouring of water from a height upon the bare abdomen will be justifiable, and very likely effectual. One of the attendants should be employed from the beginning in trying to rouse up sympathy between the uterus and breast, by compressing the latter, or by imitating the act of sucking as already described (p. 49).

*Illustrative Cases :*

I.—The following is an interesting example of a true “flooder.” When the patient engaged me to attend her, she told me that she had nearly lost her life from flooding after each delivery, and expressed great anxiety as to the result of her approaching confinement. The worst flooding was after the birth of the first child. At her monthly periods the discharge was always copious, and lasted several days ; this fact, taken together with the pale and flabby condition of the skin and muscles, testified in an unmistakable manner to the atonic state of her system. In hopes of improving the health somewhat before her confinement, which she did not expect for three months. I ordered her a compound of alum and sulphate of iron. I also enjoined her to be sure and send for me as soon as



labour began. Labour set in about a fortnight before she expected. On arriving at the house, the patient was seen comfortably sitting by the fire, as if she did not expect the labour to be over for hours. The pains were weak and far between, so much so, that she complained of their "not being the pains to do her any good." On making an examination, I found the vagina cool and lax, and the os uteri all but fully dilated. Finding the labour so far advanced, I determined to prepare an infusion of ergot, intending to administer it as soon as ready : but before the nurse could get some boiling water, the patient begged me to come to her, as she thought the child was coming. On examining, it was but too true; the head was on the perinæum, and the child glided into the world apparently without the slightest effort on the part of the mother. While I was detaching the child, she complained of feeling faint, although there was no loss of blood externally. As soon as the placenta was removed, a rush of blood followed, which caused her to faint away immediately. I applied constant pressure and wet napkins to the uterus and vulva, and administered a strong dose of ergot, but without the hæmorrhage being lessened in any material degree. The uterus would contract under pressure for a short time, and then suddenly elude my grasp. I then poured cold water from a height upon the bare abdomen, and it had the good effect of making the uterus contract well and of staying the hæmorrhage. The condition of the patient, was, nevertheless, most precarious; she was not only blanched,

but perfectly unconscious ; and, on attempting to pour some brandy into her mouth, the jaws were found spasmodically closed. However, she had lost one of her upper incisor teeth, and the brandy, diluted with water, was poured through the aperture. Gradually the pulse returned, and with it consciousness. She asked for water, and was rather restless for a short time, moving from the side to her back and then to the side again. To insure permanent contraction of the uterus, I gave her another dose of ergot. The patient recovered far better than I expected. On the third day, rather strong reaction set in, but it subsided in two or three days by persevering with opiates, stimulants, and strong beef-tea. Except the great debility consequent on such a large loss of blood, her convalescence was from that time uninterrupted.

CASE II.—Mrs. J——, æt. twenty-three, a florid, healthy-looking woman, residing in Bowyer Street, Coventry Road, was delivered of her second child, after being in labour about eight hours. Ten minutes after the birth of the infant, there was a sudden gush of blood from the vagina. I applied firm pressure to the uterus, but as a free flow of blood continued, I removed the detached placenta by traction, and followed up with pressure, cold, and ergot. However, no benefit accrued ; the blood flowed so fast, that the patient became very soon blanched, although she had naturally very red cheeks and lips. The uterus did not, as in the last case, contract for a moment and then relax so as not to be felt at another ; it kept large and soft, and con-

tracted at very long intervals. I persevered for some time with the free application of cold externally, but the patient's condition only got from bad to worse. Thinking, from the size of the uterus, that there were probably some clots in its cavity, I introduced my hand and removed about two handfuls. After irritating the interior of the uterus with the tips of the fingers for a short time strong contraction set in, and I then removed my hand. No further loss took place. She also made a good recovery.

The blanched appearance of a woman after a very bad flooding is always painful to look at, but I never before noticed it so much as in this case. Prior to delivery, she had unusually red cheeks, and was the picture of health; whereas now, her face was almost "as white as the driven snow." The contrast was so great, that her mother could not look at her for the first few days without tears coming into the eyes.

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#### DISTENSION OF THE BLADDER.

So far as I know, this cause of flooding has not hitherto been mentioned in any

of the principal treatises on Midwifery. My own attention was drawn to it through the great similarity of the answers which I repeatedly received to one of the questions usually put to patients on the first visit after delivery, "Have you lost much?" The answer frequently given was, "Yes sir, until I made water." I do not for a moment think that in all these cases the hæmorrhage was due to the distension of the bladder, for some of them will bear a different explanation. It is not uncommon for blood to collect and coagulate in the upper end of the vagina, which is much more capacious and baggy than its vulval extremity. From these clots a draining of blood continually goes on, and gives to the patient the notion that she is losing a great deal. In four or five hours after the termination of labour she turns on her knees, or, may be, sits up, for the purpose of emptying the bladder. During the exertion made, and from

the position necessarily taken by the patient, the elots collected in the vagina slip out, and the draining from them also, of course, ceases. In such cases, the full bladder and the free draining of blood do not stand in the relation to each other of cause and effect. The above explanation will not, however, hold good in every instance, for I have now met with seven cases of flooding, which were distinctly set going and kept up through the injurious influence of a distended bladder upon the lately parturient uterus.

The bladder, when distended, from its intimate connection with the lower fourth of the uterus, readily displaces or dislocates that moveable organ. It may displace the uterus in four directions—either backwards, as in retroversion; upwards, or to one side, as may be noticed after delivery; and downwards, if the bladder should be prolapsed. After delivery, the two most common displacements of the uterus from a full bladder are directly upwards, or towards one or other

iliac fossa. The hæmorrhage results from the uterus not being able to contract perfectly, either on account of its being displaced, or through the sympathetic influence which exists between the two contiguous organs. A distended bladder is probably one of the causes of *primary* post-partum hæmorrhage only; for, although it might induce in a few cases a slight degree of secondary hæmorrhage, I have generally noticed that, if the uterus once contracts firmly, and keeps so for several hours, subsequent distention of the bladder merely displaces it, but does not affect it so as to set up flooding.

*Diagnosis.*—If the bladder should be distended before delivery, it becomes necessary to find it out for one or two reasons; we may save the bladder from rupture; at all events we may give our patient great relief; and, last but not least, we may by timely aid prevent flooding from coming on after the birth of the child. When the bladder is full to any great extent

during labour, the sufferings of the patient are generally very much aggravated. At every uterine contraction the uterus is thrown forwards, and produces considerable pressure upon the bladder. The countenance and attitude of the patient draw our attention at once to the agony she is undergoing. Instead of bearing down, as is usual with women after the os is fully dilated, the pain seems too great; the mouth is kept wide open, so are the eyelids; the eyes are fixed; the eyebrows knit; the breathing is suspended for a moment; the chin thrown forwards and upwards, and the shoulders are raised. The whole appearance of the patient leads one to fear that, if the uterine contraction were only to last a little longer, some grave accident would certainly take place. Notwithstanding the severity of the pain, the progress of the labour is often slow. When the uterine contraction passes off, of course the pain is very much less; but the patient still complains of an

uneasy sensation in the hypogastric region, and she tells you that the pain never quite goes off. Such symptoms as unusual suffering, the progress of the labour not being by any means equal to the severity of the pains, and there being no obstruction to the birth of the child to account for the slow but painful labour, should be quite sufficient to direct attention to the condition of the bladder, and make it advisable to pass the catheter, even if the patient should tell us that she has passed her water only a short time before.

We cannot tell readily, by an abdominal examination before delivery, whether the bladder is full of urine, because, from the pressure of the gravid uterus, the bladder gets flattened from side to side, and the abdominal cavity is so uniformly distended by its various contents. The diagnostic signs of a distended bladder after delivery are more conclusive. We can at any time study them by telling a patient lately confined not to empty the bladder



for ten or twelve hours, and we shall then be able to examine at leisure the effect of a distended bladder upon the uterus. The proper position of the uterus after delivery is the hypogastric region; but when the bladder is distended, the uterus is displaced and its place filled up by the bladder. We find the uterus either still keeping its central position, and pushed directly upwards as high as the umbilicus or even above, or we find it lying towards one or other ilium of the pelvis. The fundus of the uterus reaching as high as the umbilicus, or even extending above that point, would not of itself be sufficiently diagnostic, for it might be due to simple hypertrophy of its structure, or to its cavity being distended by some foreign mass. The characteristic point is, that, in distension of the bladder, the continuity of the uterus into the pelvis is suddenly lost. When the bladder is empty, if we pass our hand over the uterus from the fundus downwards, we feel it dipping into the pelvis at

the symphysis pubis, but not so when the bladder is full; we then feel a soft, fluctuating tumour intervening between the hard structure of the uterus and the pubes. If the elevation of the uterus were due to hypertrophy of its structure, or the distension of its cavity by clots or placenta, we should still feel the hard uterus passing into the pelvis at the symphysis; whereas, in distension of the bladder, we lose the hard structure of the uterus at some distance from the pubes, the space intervening being occupied by the soft, fluctuating bladder. If the urine be now removed, the uterus, whether it were high up before, or turned to one side, will be found to have descended and taken up its usual central position in the hypogastric region, and the fluctuating tumour will have disappeared.

The patient also often complains of feeling a great weight in the supra-pubic region, or expresses a desire to make water. If we place the tips of

our fingers on the soft mass between the uterus and pubes, and give with them a sudden jerk, the patient will generally flinch, and say that she wishes to pass water. The flinching and desire to empty the bladder is caused by a wave of fluid being urged against the sphincter vesicæ.

*Treatment.*—When the hæmorrhage is due solely to the distended state of the bladder, the treatment consists, of course, in emptying that viscus by the catheter. The simplest way of using the catheter in flooding cases I have already considered in a previous page (81).

*Illustrative Cases :*

I.—Mrs. F., æt. twenty-four, mother of three children, residing in Glover Street. I was called to attend her at seven p.m., found the os all but fully dilated, and the head presenting in the first position. The labour progressed very slowly, notwithstanding that the pains seemed almost unbearable. There being no disproportion, as far as it was possible to judge, in the size of the foetal head and the maternal structures through which it had to pass, I ruptured the membranes, thinking that perhaps the retention of the liquor

amni prevented the uterus from acting efficiently. The labour afterwards progressed more rapidly, but the patient's sufferings were most intense, and made me anxious lest some accident should take place. At length the child was born, and in a quarter of an hour the placenta descended into the vagina, and was easily removed by traction. Having ascertained that the uterus had contracted well, I went down stairs for about ten minutes, and, on my return, found a large clot lying close to her. I applied pressure to the uterus, and it responded readily. The hæmorrhage having ceased, I again left the room for a short time, and during my absence another great clot was expelled. The uterus was compressed, and the flooding ceased. Thinking that the uterus would now keep contracted, I went downstairs for the third time, and remained away about five minutes; on my return I found that a fresh clot of considerable dimensions had been expelled, and draining was going on freely. The loss of blood was now telling upon the patient; she complained of faintness; the face and lips were pale, and the pulse quick. I then examined the state of the uterus through the abdominal walls more carefully. The uterus, although readily responding for a time to pressure, was high up; on passing my hand downwards, the continuity of the uterus into the pelvis was suddenly lost, the hand coming upon a soft, fluctuating tumour which lay between the hard uterus and the pubes. On pressing that soft mass, she immediately exclaimed, "Oh, sir, feel such a load there; if I were to make

water I should feel better." I told her I perfectly agreed with her upon that point, but I could not allow her in her state to use the exertion necessary to empty the bladder. As I had left the catheter at home (a most unusual thing for me to do), the husband was sent with a note for it. While he was away, the hæmorrhage went on, notwithstanding cold was applied to the uterus and vulva. She constantly complained of the great load felt in the hypogastric region, and begged me to let her pass her water, as she was sure she would then be better. I gave ergot, and kept on applying cold and pressure until the husband returned. The catheter he brought back was not of the slightest use, as it was old and broken; therefore, under the circumstances, not feeling myself justified in leaving the patient bleeding to get the catheter, I thought it better to try first what passing the hand into the uterus would do. A few clots were removed, the uterus contracted, and the hæmorrhage again ceased. I now felt it more safe to leave her, and went home and got the proper catheter. On my return, I found the flooding had recommenced just as bad as ever, and the patient had fainted away. Having first administered some brandy-and-water, I passed the catheter, and withdrew an enormous quantity of urine. The hæmorrhage then ceased entirely; the uterus was now felt in its proper position; the fluctuating mass had vanished; the sensation of a great load was gone, and she expressed great relief. The patient was, as might be expected, in a very low state during the night and the next day; but no further hæmorrhage took place.

CASE II.—Mrs. D., æt. thirty-five, mother of five children, residing in Regent Row, Caroline Street, had a very easy labour. The child was born in about five minutes after my arrival. The placenta came away easily, and the uterus apparently contracted firmly; but considerable draining kept up notwithstanding. I stayed with her an hour; and although she was pale, and the loss of blood seemed more than was right, the pulse was not above 80. As a slow pulse in hæmorrhage is very rare, I deceived myself with the idea that she was not losing too much. About four hours after, I happened to go near her house and looked in. The nurse said she had sent for me, and was glad of my arrival, as she had not been able to make Mrs. D. speak for the last hour. On examining the state of things, I found the clothes under her saturated with blood, and free draining going on. The patient was blanched but the pulse was still slow. Through the abdominal walls, the uterus could be felt high up, and a fluctuating mass lay between it and the pubes. A large quantity of urine was removed, the uterus descended into its proper position, and the hæmorrhage at once ceased. as in the former case. The patient did well.

CASE III.—Mrs L., æt. twenty, primipara, residing in Bellbarn Road, was delivered of a male infant after a tedious and painful labour. The placenta came away in about ten minutes, followed by a great gush of blood. I applied for a time pressure to the uterus, which was tilted to one side of the central line. Suspecting the state of the bladder, from the uterus not being in its proper position.

together with the hæmorrhage, I passed my hand over the hypogastric region and there felt a soft tumour. The fluctuation could not be so effectually made out as in the two former cases ; but when a jerk was given to it with the tips of the fingers, the patient instantly expressed a desire to pass water. The condition of the patient was rapidly getting worse ; the pulse was very quick, at least 140 ; and every vestige of colour had fled from the face and lips. I removed a large quantity of urine ; the uterus returned to its proper central position, and for a time the hæmorrhage was entirely arrested ; but it gradually returned again, although not with its former virulence. However, as the patient's condition became worse instead of better, I felt it necessary to take further measures for its arrest. I passed my hand into the uterus and removed some clots. The hæmorrhage was now effectually arrested, and the patient recovered.

This case differed somewhat from the two preceding. In the first two cases the distension of the bladder was the primary and only cause of hæmorrhage ; whereas in the last there were two causes. The primary was the distension of the bladder, which prevented the uterus from contracting perfectly, and thus allowed clots, which were the secondary cause in keeping up

the hæmorrhage after the bladder was emptied, to collect in its cavity.

CASE IV.—I was called to this case by one of the students of the Queen's Hospital. Hæmorrhage had come on after delivery, and he had tried in vain to stop it by cold, pressure, and ergot. The uterus was high up, in consequence of the bladder being full. I removed the urine, and the flooding at once stopped.

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#### CLOTS IN THE UTERUS.

Either alone, or in conjunction with other causes, clots in the cavity of the uterus frequently give rise to an undue loss of blood. The flooding is kept up by the clots distending the uterus and preventing its complete contraction. It is a fact of great practical value, that, in order to be safe from flooding, it is not only necessary that the uterus should be firmly contracted, but also that *its cavity should be perfectly empty*. The detention and coagulation of the blood in the uterus may be due to many causes. Sometimes,



on the detachment of the placenta, blood is poured out, and is prevented from escaping, the placenta acting as a plug. When the placenta is removed, the coagulum in some cases remains behind. In the same way a clot may form in the uterus in consequence of the flow of blood being obstructed by a coagulum lying over the os uteri, or in the upper end of the vagina. The horizontal position on the left *side* also tends to keep a certain amount of blood stagnant in the left side of the uterine cavity. It is in order to allow the blood to escape freely as it flows from the mouths of the vessels that I always place a patient on an incline before delivery; the head, shoulders, and thorax being higher than the pelvis (Prec. V). When the patient lies on her back, the blood escapes more easily, in consequence of the direction of the uterine cavity being backwards and downwards. Coagula are especially liable to collect in cases of inertia, from the walls of the uterus being so distensible.

Clots, which are expelled after labour, may be uterine or vaginal—*i.e.*, they may be formed in the uterus or vagina; and this distinction is of considerable practical importance. Vaginal clots form in the majority of cases, and, except when very large, give rise to no particular symptom, and come away generally when the patient empties the bladder; whereas uterine clots are, *comparatively speaking*, rare; and as their expulsion is usually effected by uterine contraction, are attended with more or less suffering and loss of blood. Very often we may be able to tell, by the appearance of a clot, whether it has been formed in the uterus or in the vagina. A vaginal clot is smooth, shining, and soft, just like a coagulum which has been allowed to form in a basin; ranging in size from that of a marble to that of a child's head. It is impossible to tell a fresh uterine from a vaginal clot; but after it has been exposed to the contractile efforts of the uterus for a few hours, it has undergone

certain changes, which enable it to be easily recognised. It is more or less compressed, of toughish consistence, and its surface is rough and broken, not unlike a piece of placenta. Sometimes it is expelled in flaky pieces; or when the coagulum is single and fills up the interior of the uterus, it may be expelled retaining the shape of the cavity.

*Diagnosis.*—Hæmorrhage, due to the presence of uterine clots alone, is readily ascertained. The uterus is more bulky than is proper, and very *tender* on pressure; the patient complains of frequent and severe after-pains. If the placenta and membranes have come away entire, and the patient complains of the above symptoms, the flooding will be sure to be owing to the presence of clots in the uterus. When there is inertia as well, the tenderness and after-pains will be absent; but even then we may tell pretty clearly that there are clots in the uterus, from its large size and the obstinacy of the

flooding. In most of these cases the hæmorrhage is external as well as internal; but in a few instances the flooding is almost entirely internal, the blood pouring into the uterus and coagulating there, and very little of it appearing externally. With ordinary care internal hæmorrhage cannot be overlooked, for the symptoms of loss of blood will be present, and the uterus will be very bulky—in some bad cases, almost as large as previous to delivery.

*Treatment.*—The clots must be removed either by strong pressure on the uterus, or the introduction of the hand. If the coagula are recent they may often be expelled by grasping the uterus firmly and pressing downwards. I employ this plan only in cases in which the hæmorrhage has not been great, and I infer from the size of the uterus that the quantity of coagula is small. The removal of the clots should be effected by the introduction of the hand—first, when there has been a large loss of

blood and it becomes necessary, in order to insure the patient's safety, to arrest the hæmorrhage at once, the expulsion of clots by pressure being always uncertain; secondly, when the uterus is very large and evidently contains a large quantity of coagula, because there is a great risk of only partially emptying the uterus by pressure, in which case valuable time and blood are lost, and the introduction of the hand becomes necessary after all—besides, in bad instances of internal hæmorrhage, the depression produced by pressing out a large mass of clots is quite as severe, as that caused by passing the hand into the uterus, if not more so; thirdly when the uterus is so tender that the patient can hardly bear it to be touched; in such a case it would be cruel to torture the patient by endeavouring to expel the clots by pressure; and lastly, when the coagula have been in the uterus for some hours, because after a time they become so tenaciously

attached to the walls of the uterus, that very often pressure will not succeed in bringing them away. Sometimes, on passing the hand into the uterus, a few soft clots will be felt loose in the centre of the cavity, while the walls are plastered by layers of clots, consisting chiefly of the fibrin of the blood, and adhering so firmly that a certain amount of force is required to detach them.

*Illustrative Cases*:—I have met with several instances in which I have had to remove clots a short time after delivery; but the two last of the three following cases are interesting, inasmuch as the clots were not removed until the lapse of twenty-four hours:

CASE 1.—Mrs. D., æt. forty-one, residing in Warstone Lane, a Dispensary patient, the mother of a large family, was delivered more than an hour previous to my arrival by a midwife. The patient was in bed, bandaged up, and the midwife gone. She looked very pale, and the pulse was quick and small. On inquiry she said she was losing a great deal, and suffering considerably from after-pains. On undoing the binder, I found the uterus reaching a little

above the umbilicus and very tender—so much so, that she pushed away my hand and begged me not to press again. I then turned her gently on her side, introduced my hand into the uterus, and removed a large mass of clots. She felt almost instant relief; the hæmorrhage was stopped there and then; the uterus was much decreased in size, and was no longer painful on pressure. She made a good convalescence.

CASE II.—Mrs. W., æt. thirty-six, the mother of six children, was also delivered before my arrival. She had been placed in bed, and appeared going on pretty well, and according to her own account, the loss was “not more than it ought to be.” Having a great deal of work to do that day, I did not see her again until next morning. She complained bitterly of the after-pains, which had tormented her during the whole night. The face was pale, and the pulse 120. There had been, and there was still, free draining of blood going on. The uterus was larger even than in the last case, and very tender; I turned her over on the left side, and passed my hand with ease into the uterus. In consequence of the time which had elapsed since delivery, the sensibility of the parts had fully returned, and the passage of the hand caused more than usual pain. The patient and her friends entreated me to desist; I was some time before I got all the clots away, as there was a large quantity of them, and some adhered very firmly to the walls of the uterus. The relief on their removal was instantaneous and permanent, the draining ceased, she had

not a single after-pain afterwards, and the recovery was uninterrupted. Although the operation was painful, the benefit derived was so evident to the patient's mind and feelings, that I obtained considerable credit in consequence.

CASE III.—Mrs. B., Tindal Street, primipara. The labour had been very rapid, and the child was born before they sent for me. I found that the loss had been considerable, but by simple pressure on the uterus the hæmorrhage was apparently stayed. I was not able to see her again until next day. She said she had lost a great deal, and was suffering severely from after-pains (most unusual for a primipara). The pulse was quick and she was thirsty and feverish. The uterus was large and tender, and the sanguineous discharge which drained from her was slightly offensive. I passed my hand into the uterus and removed a mass of very black clots, which already had begun to decompose. On my next visit the patient's condition was very much improved: she had had no after-pains, and very little discharge since the removal of the clots; the uterus was considerably diminished in size, and had lost its tenderness; the discharge was no longer offensive, and the pulse had gone down to 100. She did well.

This case is one of great interest, as the clots in the uterus endangered the patient's life, not only through the loss of blood, but by their decomposition. I consider she had a most narrow escape from an attack of puerperal fever,



Besides the accumulation and coagulation of blood in the uterus, we may meet with another variety of internal hæmorrhage, which is quite as dangerous and much more liable to be overlooked. I stated that in most cases a few small clots form after delivery in the vagina, and come away during micturition; now in some instances of flooding very little of the blood escapes externally, but nearly the whole of it coagulates in the vagina. It is astonishing what a quantity of clots the vagina can contain. In two cases which came under my own observation, the vagina was distended in its circumference by coagula to the fullest extent, and its distal extremity was so pushed upwards, that a soft mass, which could be felt externally above the pubes, and which for a time appeared to be the bladder, was nothing more than the upper portion of the vagina containing clots. The collecting of the blood in the vagina, instead of escaping through the vulva, is most likely due

to the patient lying with the buttocks placed on too high a level, and the uterine extremity of the vagina being unusually capacious. Our attention will be first attracted by the symptoms of loss of blood, such as faintness, increasing rapidity of the pulse, pallor of countenance, &c.

The external loss of blood may be almost *nil*, or there may be free draining. The uterus may be found to be of the usual size, moderately contracted, and in its proper position, unless the quantity of coagula be very large, in which case the uterus may be pushed up and a soft mass felt below it. In the two cases, alluded to above, in consequence of feeling a space between the hard uterus and the pubes, I thought the bladder was distended; and I should have introduced the catheter, had not a feeling of bearing-down, complained of in both instances, led me first to make a vaginal examination, which at once revealed the true state of things.

The treatment is very simple. The clots

may readily be pushed out of the vagina by pressing the uterus firmly downwards, the patient bearing down at the same time.

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## COUGH.

The sympathetic cough from which women frequently suffer during the latter months of gestation continues for a day or so after delivery. It is especially troublesome for the first few hours, and sometimes gives rise to a very free loss of blood. The attacks of coughing do not continue long, but recur frequently.

*Diagnosis.*—The uterus is felt fairly contracted, and the loss of blood, which occurs as a draining, *only takes place when the patient coughs.*

*Treatment.*—It consists in relieving the cough as soon as possible, Fifteen minims of the tincture of opium or Battley's solution should be given at once, and a second or third dose at intervals of half an hour, if the first dose does

not prove effectual. During each attack of coughing, much good may be done by grasping the uterus firmly and steadying it; it excites a more efficient contraction, and also prevents the uterus from being shaken so much.

*Illustrative Case :*

The patient, mother of seven children, was attended in her confinement by a pupil of the Dispensary. The placenta came away by traction without any difficulty, in about five minutes after delivery; the uterus contracted firmly, and, except that she had a bad, teasing cough, she appeared for some time to be doing very well. In about half an hour the patient complained of feeling very faint, and as there were other signs present of an undue loss of blood, an ocular examination was instituted. It was then found that the patient had lost a great deal, and also that a free draining took place every time the patient coughed. Ergot was administered, and cold and pressure applied, but with little or no avail, as the cough was almost incessant. I was accordingly sent for. There was no difficulty in making out the cause of the hæmorrhage. The uterus was rather large, but it readily contracted on pressure; there was an entire cessation of hæmorrhage during the brief intervals in which the patient was free from coughing. As the woman was in a very low state, I was anxious to relieve the cough as soon as possible, and I began by giving half a drachm

of Battley's solution of opium, and in a quarter of an hour gave a second dose of fifteen minims. After the last dose, the attacks rapidly diminished in frequency, and the patient was soon out of danger from further loss of blood. For the first few days, until the cough ceased, she took every four hours a draught containing ten minims of chloric ether, fifteen minims of the compound spirit of ether, and five minims of Battley's solution of opium in an ounce of water.

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### A LARGE PLACENTA.

Women are much more liable to flood after delivery of the placenta in twin than in single births; at the full term, than after premature confinements; when delivered of a large child, than of a puny one. In twin cases, there being two placentaë either separate or attached to each other, more vessels are laid bare on their detachment. At full term, the calibre of the vessels and the uterine sinuses are larger than in the preceding months. When the child is very large, the placenta is generally in proportion. The larger the placenta, the greater are the

number of uterine sinuses laid open, and the uterus has to be more firmly and equably contracted than it usually is soon after delivery.

*Treatment.*—As the sole object to be attained is a strong and permanent contraction of the uterus, the treatment should be the same as that for hæmorrhage from inertia.

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#### EXERTION.

Exertion is a frequent cause both of primary and secondary hæmorrhage, especially among the lower class. Very slight exertion made during the first two or three hours after confinement is liable to bring on profuse flooding. I have met with two or three bad cases brought on by removing the wet clothes, putting on clean things, and drawing the patient into bed. In another instance, flooding was set up by the woman injudiciously getting out of bed to make water; soon after I had left the house. Severe flooding

may also be caused through exertion several days after delivery. Dr. McClintock relates a case which set in on the eleventh day. It is more common, however, after the lapse of a few days, to meet with cases in which the hæmorrhage is not profuse, but occurs as a slow, continual draining. When women leave their bed before the lochia have taken the place of the sanguineous flow, a slow draining of blood is very apt to continue for a month or six weeks. Even after the coloured discharge has ceased for several days, getting about too soon not infrequently brings it back again. The slow loss of blood for several weeks after confinement occurs more often than medical men are aware of. At the Dispensary, I made numerous inquiries concerning this point, and I not only found that was it of frequent occurrence, but the answers received from some of the patients showed that they looked upon it as natural. Three or four women said that they always lost very little until they

got up, and seemed surprised when I explained to them that the subsequent loss was in consequence of their not remaining in bed long enough. The debility and anæmia resulting from the gradual loss of blood were attributed to a tedious convalescence from the immediate effects of the labour.

*Diagnosis.*—We may infer that exertion is the cause of the hæmorrhage, if the patient was quite free from flooding before the exertion was made.

*Treatment.*—This depends very much on the length of time which has elapsed between the delivery and the commencement of the hæmorrhage; also upon the profuseness of the flow. If the flooding be violent within the first day or two, cold and pressure should be diligently applied, and two or three doses of ergot administered. If there should be any evidence of clots having collected in the uterus, they must be pressed out or removed by the hand. When



the flooding comes on profusely for the first time several days after delivery, we may also have recourse to plugging the vagina, precautions being taken against the occurrence of internal hæmorrhage.

Those cases in which the loss occurs as a long continued draining may usually be treated without the local application of cold. When the uterus is not tender, firm pressure should be applied to it by a pad and binder. The patient should be enjoined to eat and drink everything cold, keep perfectly quiet, and take five grains of gallic acid, fifteen minims of dilute sulphuric acid, ten minims of Battley's solution of opium, in an ounce of compound infusion of roses, every four hours. If no benefit be derived from these remedies in a few days, an infusion of ergot may be given instead of the astringent mixture, each dose containing ten grains of ergot. In obstinate cases of draining, occurring two or three weeks after delivery, the

injection of a pint of cold water every morning into the rectum will generally be attended with success; if, however, all these various means fail, we must then employ the tampon or plug.

I have now treated briefly all the most common causes of post-partum hæmorrhage, and in the next chapter will enter upon the consideration of those which are more rarely met with.

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## CHAPTER VII.

RUPTURE OF THE OS UTERI—RUPTURE OF  
A THROMBUS OF THE CERVIX.

ALTHOUGH a slight rupture of the os uteri, during delivery, is not at all uncommon, flooding to any extent rarely follows the injury. The most extensive laceration of the os I have yet seen occurred in a lady, a relative of one of the surgeons of this town, in her first confinement. The tear was about two inches in length, but no flooding or any other bad result followed. When the loss is excessive in such cases, it generally takes place as a long-continued draining, lasting, if left without treatment, more or less to the end of the puerperal month.

Thrombus of the cervix consists of an extra-

vasation of blood into the lower part of the cervix. It most frequently forms in the anterior lip, in consequence of the circulation of the blood at that part being liable to be obstructed by the pressure of the head upon the symphysis pubis. A thrombus of the cervix is fortunately not of common occurrence, for the bursting of it may be followed by profuse, and even fatal flooding. We may meet pretty frequently with that condition of the anterior lip, which generally precedes the formation of a thrombus. It is swollen, tense, and jammed between the head and symphysis, while the posterior lip is often fully dilated. In the majority of instances, it does not interfere with the safety of the mother, except by considerably hindering the progress of the labour. In rare cases, the pressure on the obstructed blood-vessels is such, that one or more of them burst, and their contents extravasate into the structure of the cervix. The pressure being continued, the thrombus at length ruptures,

and the blood escapes externally; or it may burst by softening and ulceration of the thin tissue overlying the effused blood.

*Diagnosis.*—We shall be greatly assisted in the diagnosis if, previous to delivery, we had noticed that a rupture of the os, or of a thrombus of the cervix, had taken place. These accidents occur for the most part in cases in which the membranes have ruptured before the os has been fully dilated. Sometimes, during a strong contraction, we may feel the os give way at a certain point, and, on withdrawing the finger, there will be more or less blood upon it. We may also know that a thrombus of the cervix has burst, by the sudden disappearance of the swollen anterior lip, followed by a free escape of blood. If the case should not have been seen until after delivery, the obstinacy of the hæmorrhage, together with a firmly contracted state of the uterus, would lead us to make a careful vaginal examination, and then, unless the lesion of the os

were slight, the cause of the flooding would be detected.

*Treatment.*—The injection of a stream of iced water kept up continuously against the os for some time, should be first tried. If that does not succeed, a saturated solution of perchloride of iron should be injected against the bleeding surface, and, if that also fail, plugging the vagina must be had recourse to. When the hæmorrhage does not begin until three or four days after delivery, the plug may be applied from the very commencement.

*Illustrative Cases:*—The two following interesting instances of hæmorrhage from a ruptured thrombus of the cervix are quoted from Dr. M'Clintock's *Memoirs on Diseases of Women*.

CASE I.—It occurred in the practice of Dr. George Johnston. The patient, a strong, healthy woman, was delivered of her seventh child, after being in labour a few hours. The infant, a female, presented with the breech, and from its appearance had evidently been dead some time. The placenta came away in ten minutes, and the patient went on for the first three days without flooding, or any

other bad symptom. "On the fourth day, at half-past one o'clock," writes Dr. Johnston, "the nurse called me in a great hurry, stating that the patient had been suddenly attacked with violent hæmorrhage. On inquiry, I found that she had not been out of bed, nor had she been using any exertion. On reaching the bedside (which was in less than a minute after hearing the report, and certainly not more than three from the first gush of blood), I found her lying on her back, countenance perfectly blanched and expressive of great anxiety, which, with the neck, hands, and arms, was bathed in cold, clammy perspiration. No pulse could be felt at the wrist, and the bed was inundated with blood, which was still flowing from the vagina. Prompt and judicious means were used to control the hæmorrhage and recruit her strength. For a time it seemed as though these measures would be successful. The pulse returned to the wrist, and the discharge of blood from the vagina greatly diminished. This improvement was but of short duration, however; the flooding recurred; she again became pulseless, fainted, and rapidly sank, just one hour and a half after the first attack of hæmorrhage. At the necropsy, the uterus was found well contracted down in the pelvis. On the left side of the cervix, about one inch from the os uteri, was observed a ragged, sloughy-looking opening, the edges of which were very irregular, and of a black ash grey colour. This opening, which was large enough to admit two fingers easily, communicated with a cavity the size of a small orange; it seemed to be formed in the sub-

stance of the cervix. On laying open this cavity, and washing away some loose clots (but carefully observing that there was no laminated coagula), the lining membrane was found rugous, of a firm consistence, and resembling very much the mucous membrane of the vagina. Opening into this sac were seen the mouths of five or six blood-vessels, large enough to admit a small bougie."

CASE II.—Dr. Montgomery, who gives the history of the case, says, "A lady affected with varicose veins, which extended all up the lower extremity, and could be traced into the vagina, was delivered, after a natural and favourable labour, at midnight; but shortly afterwards a fearful rush of blood took place, very unexpectedly, for the *uterus was well and firmly contracted*. So great was the hæmorrhage, that complete prostration was immediately produced, and, when I saw her, she was cold and pulseless, nor had she any return of pulsation in the radial artery for six hours and a half from the time of the sudden hæmorrhage, and during a part of that time the action of the heart could neither be felt nor heard. All this time, the uterus remained perfectly contracted; but, in the situation of the anterior lip, its substance felt as if broken up into a soft pulp, the consequence, as I believe, of the formation and rupture of a bloody tumour. To our great joy, she ultimately rallied under the treatment adopted, and completely recovered."

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## SLOUGHING OF THE VAGINA.

The sloughing may lay open a vaginal artery and set up dangerous flooding. Hæmorrhage from such a cause would not come on until several days after delivery. It is of extreme rarity.

*Diagnosis.*—The history of the case—the flooding not commencing until several days after labour, with the uterus perfectly contracted, and in a patient suffering from sloughing of the vagina—would probably suffice to point out the source of the hæmorrhage.

*Treatment.*—Cold or iced water, or *water saturated with alum*, should be injected freely into the vagina for some considerable time. If the hæmorrhage should keep up to a dangerous extent after a fair trial has been given to styptic injections, the plug will have to be used. In a case of this kind we should only use the plug as a *dernier resort*; for, if the sloughing were exten-

sive, the procedure would be, to say the least of it, attended with great pain. An uninflated india-rubber bag passed gently into the vagina until it lay over the bleeding surface, and then slowly inflated, would probably cause less suffering, and could be kept in for a longer period with safety than any other form of plug.

*Illustrative Case* :—The following example of hæmorrhage resulting from sloughing of the vagina is quoted from Dr. M'Clintock's work :

"A woman, æt. thirty, was confined of her first child, after a protracted labour, characterised by great atony of the uterus. Three doses of ergot of rye were given in the second stage, and, under their influence, the child was expelled; and, most probably, hæmorrhage prevented. She was an unhealthy, broken-down-looking woman, and deep sloughing of the genital passages set in soon after delivery. Notwithstanding this, however, she seemed progressing favourably. Towards the end of the third week, when the sloughs were still coming away, and the patient of course very weak, hæmorrhage from the vagina suddenly came on. Every mode of treatment, the plug alone excepted, was tried, but without effect; the bleeding persisted, and within a brief period the woman sank. The blood was remarked to have an unusually florid colour. At the *post-mortem*

examination, the womb was found well contracted, of the natural size at this period, and without any trace of blood in the interior. A large coagulum was found in the vagina. The sloughing process had extended quite through the walls of this canal at the left side, corresponding in situation to the descending ramus of the pubes ; and it was supposed that the coats of the pubic artery, or of some branch directly passing from it, had been destroyed, whereby the hæmorrhage was produced."

#### RUPTURE OF THE PERINÆUM.

Severe hæmorrhage from this common accident is extremely rare. I am sorry to have to confess that, in the early part of my midwifery experience, I met frequently with cases of ruptured perinæum, but I never saw an instance of undue loss of blood from it. It is well to know, however, that it may occur.

*Diagnosis.*—This would not be difficult, in all probability. The fact of the perinæum being ruptured, which lesion ought never to take place to any extent without the attendant being aware of it, and the loss occurring with a firmly con-

tracted uterus, would necessitate a more minute examination, both with the finger and the eye; and on separating the torn edges, the blood would be seen oozing from the surface generally, or in a single arterial jet. If there should be any doubt as to whether the blood really came from the torn surfaces of the perinæum, or merely passed through them from above, a piece of sponge passed into the vagina above the rupture will obstruct the flow of blood from the uterus for a time, and enable us to see exactly the amount of loss from the perinæum.

*Treatment.*—The local application of cold would most likely soon stop the hæmorrhage, but if it did not, the best thing to be done would be to bring the torn edges together by three horse-hair sutures.

*Illustrative Cases.*—The first is quoted from a paper by Mr. Francis Adams on “Flooding After Delivery”—*Medical Times and Gazette*, August 29, 1845; and the second is a case

related by Dr. Thorburn, of Manchester, at a meeting of the Medical Section of the Royal Manchester Institution—*British Medical Journal*, May 13, 1865 (p. 496):

CASE I.—“ I delivered a stout healthy woman of her first child, after a natural labour of about twelve months' duration. The birth of the child was followed by some slight discharges of arterial blood from the os externum, but not such as to excite any apprehension on my part, until about five minutes afterwards, when the placenta was cast off along with an enormous quantity of blood. While I was applying cold cloths to the parts, I happened to separate the labia pudendi slightly, when I saw an artery spirting blood to a distance. By means of the cold application, I succeeded in stopping the hæmorrhage; but I have seldom seen a stout woman so shaken by a flooding after delivery.”

CASE II.—“ Mrs. D., aged 22, primipara, had a quiet and easy labour, except that the external orifice offered considerable resistance, and there was a slight rent of the perinæum. The placenta was expelled in a few minutes, and the uterus contracted well. As the child did not breathe freely, Dr. Thorburn's attention was directed to it for a short time; and the nurse, who had been directed to keep the hand on the uterus, came to assist him. After a few minutes, he noticed that the mother was very pale, and had all the symptoms of severe hæmorrhage rapidly coming on. She was almost pulseless, and the bed was in a sea of

blood. Notwithstanding this syncopal state, the uterus was small and hard. He gave at once a large dose of ergot and brandy, with some laudanum—applied a cold wet cloth to the pubes, and grasped the uterus firmly. A vaginal examination with the other hand elicited nothing. On inspection, in order to ascertain the source of the hæmorrhage, he noticed that it had a pulsatile character. This led to an examination of the perinæum, where a tolerably large vessel was pumping freely. He seized the artery with a pair of forceps and twisted the bleeding end, when the hæmorrhage ceased at once. The patient was a considerable time before she rallied; and Dr. Thorburn never saw a case of uterine hæmorrhage more speedy and severe in its effects. She ultimately made a good recovery."

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### THROMBUS OF THE VULVA.

This accident consists of an extravasation of blood into the cellular tissue of the vulva and lower part of the vagina. It may occur at any period of pregnancy, but it usually takes place during the passage of the foetal head through the pelvis. On delivery, a tumour consisting of the effused blood rapidly forms in one of the labia,

and after the lapse of a certain time it bursts, and sometimes very serious hæmorrhage follows. The chief predisposing cause of thrombus in this situation is a varicose state of the veins of the vagina, and, during delivery, the direct cause is the pressure of the presenting part of the child. The size of the thrombus varies from that of a small walnut, situated close to the posterior commissure, to that of a fœtal head occupying the whole extent of one labium.

*Diagnosis.*—The thrombus is generally discovered before it ruptures and any external hæmorrhage takes place. The patient complains of an uneasy, sometimes unbearable pain at the lower end of the vagina, and is also restless. These two symptoms continuing, induce us to make an ocular examination, and then the characteristic swelling is at once perceived. The tumour is confined to one labium. At first it is of a blueish hue, and gradually deepens in colour until, previous to rupture, it becomes

almost black. Finally, the skin covering the effused blood becomes thinner and thinner, until it bursts; some coagula are expelled, and there may be pus, as I saw in one case. In those cases in which the bursting of the tumour is followed by free hæmorrhage, the blood can be seen flowing from a rent in the affected labium.

*Treatment.*—The cavity of the thrombus should be stuffed with lint or sponge dipped in a strong solution of perchloride of iron, and cold applied locally. If these means fail in arresting the hæmorrhage, pressure upon the vaginal veins may be applied, by an india-rubber bag inflated just within the orifice of the vagina.

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#### INFLAMMATORY ULCERATION OF THE CERVIX.

Dr. James Bennett is of opinion that, in a great many cases, where a draining of blood continues several weeks after confinement, it is due to ulcerative inflammation of the os.



During labour the os and cervix may be bruised, abraded, or lacerated, and instead of the injuries healing kindly, they remain in an ulcerated condition.

*Diagnosis.*—The speculum must be used to ascertain this cause of hæmorrhage, unless the ulceration is extensive and deep, when the touch may suffice. We may suspect that the draining of blood is owing to some ulcerative lesion of the os, if it has continued several weeks, and especially if there is also a purulent discharge.

*Treatment.*—It consists in administering astringents by the mouth, and tepid astringent vaginal injections; the periodical application of nitrate of silver to the ulcerated surface is also useful. Dr. Bennett mentions one instance in which he used the pernitrate of mercury. The nitrate of silver would, however, generally prove effectual, and it should always be tried first.

## PURPURA.

Flooding of a most obstinate and dangerous character occurs in women who happen to be suffering from purpura at the time of delivery. It is a rare affection in pregnant women; at least, that form in which ecchymoses are visible on the surface of the body. It is very probable that some difficult cases of flooding are really due to a purpuric condition of the blood and blood-vessels, notwithstanding that the characteristic spots of blood extravasated under the skin may be absent. I met with one instance where the patient was delivered of an infant covered from head to foot with spots of purpura. It only lived four hours, and during that time the extravasations of blood could be seen extending in every direction. The mother had a dreadful flooding. The persevering application and repetition of remedy after remedy were for a long time but of temporary benefit, and it was

not until the case seemed almost hopeless that the virulency of the hæmorrhage abated. A free draining of blood continued for three days. There were no purpuric spots to be seen on the patient's skin, and the flooding might have been a mere coincidence, and not an indication that her state was similar to that of her infant. It is an interesting and important question, however, for further observation to settle, whether purpura in the new-born infant implies an analagous state of the blood and vessels of the mother.

*Diagnosis.*—The presence of petechiæ or ecchymoses on the body; or a history of profuse bleeding, arrested with difficulty, following a cut, or the extraction of a tooth during pregnancy, would be the only reliable signs.

*Treatment.*—As the purpuric state of the blood cannot be removed at once, all that can be done is to make the uterus contract as firmly as possible. The intra-uterine injection of cold

\* water, or of a solution of perchloride of iron, and compression of the aorta, in addition to the common remedies, would be especially useful. The internal administration of a large dose of turpentine might also be tried, probably with advantage.

*Illustrative Case : \**

“ Mrs. L — consulted me on the 8th of December last : she was in the beginning of the eighth month of pregnancy ; felt very feeble, with a weak quick pulse ; had pains in her limbs, so as to render her lame in walking, and was marked in various parts of the surface, with livid blotch of purpura, varying in size from a shilling to the palm of the hand. On applying the stethoscope, what has been termed the placental souffle was distinctly audible in the right iliac aspect of the uterus, but the foetal heart could not be heard. She had been sensible of the foetal movements for a few weeks after quickening, subsequent to which period all maternal impressions of foetal life had ceased. The child evidently was dead, and the purpura and ill-health probably dependent on that death. As the state of pulse and other symptoms precluded general blood-letting, I prescribed laxatives with quinine and iron ; the purpura, however,

\* In answer to a letter, Mr. John Lyell, of Newburgh, Fifeshire, kindly referred me to the notes of this case which he published in the *Lancet*, vol. 1, p. 384, 1850.

went on increasing ; by the 12th, the gums had commenced bleeding, and continued to ooze out rather freely, in spite of all local styptics, so as to keep her incessantly spitting for two days and two nights. On the 14th, labour commenced, but the pains were feeble and distant, so that the os uteri dilated very slowly. The gums now gradually ceased to bleed, but a discharge instead took place per vaginam, which increased in quantity as labour went on ; and at last, getting somewhat alarming, I administered ergot to expedite the delivery. The presentation was normal ; satisfactory uterine action took place, and in less than an hour after administering the ergot, a blighted foetus of apparently five months was expelled ; the placenta soon after followed, remarkable only in extensive fibrinous deposit on its maternal aspect. The uterus having properly contracted under the special stimulus of the ergot, and hæmorrhage to any appreciable extent having ceased in a short time, I left the patient in a hopeful condition. Some hours after, however, I was called again hurriedly, as she had sickened and become alarmingly ill ; I found her pale, faint, and almost pulseless, evidently to the least practised eye, prostrate from the loss of blood. There were very few clots but the bed under the patient was soaked with blood, which continued to escape by a ceaseless and considerable stillieidium from the external parts. Still the uterus felt well contracted and normal in size, the hæmorrhage evidently depending, not on the adynamic condition of that organ, but on the purpuric quality of the

blood itself, which thus found means of escape from its whole internal surface, where healthy blood would have been restrained in its flow. To prevent further loss of the vital fluid, and arrest the progressively fatal tendency of the case, I readjusted the circular roller with increased padding so as to firmly compress the uterus from above, and then applied the long bandage\* with a properly shaped sufficient compress on the perinæum, so as to afford counter support to the organ below, when escape of blood from without being impossible, and its collection within equally so, it is almost superfluous to say that the patient ceased to get worse; in a short time began to get well; and now ten days after delivery is doing well. The long bandage I slackened within 24 hours, and in another like period removed entirely."

\* The long bandage Mr. Lyell describes as consisting "simply of a stripe of stout linen or calico fully two yards in length and about a foot broad; a slit is made in mid-breadth through which the patient's head is passed, when the bandage rests on the shoulders, the long end is passed down the back, and brought up between the thighs, to meet and partly overlap the short end in front, to which it is pinned and tied." "From this arrangement, it is obvious" says Mr. Lyell, "that with the shoulders as a counterpoint of support, any amount of pressure can be applied to the perinæum, and through the medium of a compress to the uterus itself. The organ thus compressed within the cavity of the pelvis, without the possibility of blood escaping externally or collecting to any appreciable extent internally, uterine hæmorrhage becomes at once effectually arrested, at least, so I have found in practice for many years."

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## CONSTIPATION.

A loaded state of the intestines has been known to act as an exciting cause of flooding after labour. As Dr. M'Clintock justly remarks, in consequence of women nearly always being careful, especially during the last month of pregnancy, in keeping their bowels open, this cause of hæmorrhage is rarely met with. Besides this, when the rectum is full, the pressure of the child's head through the pelvis generally empties it of its contents. Probably, the only part of the intestines which would affect the uterus in any way would be the cæcum, the sigmoid flexure, and the rectum; it would be difficult to understand how the loaded state of the small intestines could act upon the uterus so as to set up flooding.

*Diagnosis.*—This is not always very easy. We may reasonably conclude that constipation is the cause of the hæmorrhage, if the ascending

or descending colon is felt distended through the abdominal walls, or the rectum through the vagina, or if there is a history of a prolonged state of constipation.

*Treatment.*—A cold or tepid enema containing castor-oil and turpentine, and a purgative mixture consisting of sulphate of magnesia, tincture of hyoseyamus, and compound infusion of roses, would be the best treatment.

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#### POLYPUS, OR FIBROUS TUMOUR.

There are several cases on record of dangerous and fatal flooding arising after delivery from the presence of a polypus or fibrous tumour in the uterus. Uterine tumours generally increase in size considerably during pregnancy, in consequence of the great vital activity going on in that organ at that time, and after delivery they seriously interfere with the due contraction of the uterus. A tumour lying partly embedded



in the substance of the uterus, or contained wholly in the cavity, is much more dangerous, from its being less amenable to treatment, than a tumour which is merely attached by a pedicle to the uterus, while the chief portion of it hangs in the vagina.

*Diagnosis.*—This depends very much upon the position of the tumour. If a portion lies imbedded in the substance, and the rest projects from the surface of the uterus, it may be felt through the abdominal wall; on the other hand, if it projects into the cavity of the uterus, we shall not be able to detect the cause of the hæmorrhage without introducing the hand, and that of course would be only possible during the first day or two after delivery. A polypoid tumour lying in the vagina will be easily felt on making an internal examination. Care must be taken, however, not to mistake it for an inverted uterus. There is one symptom which is sometimes present, especially when the tumour

is pedunculated and lies in the cavity of the uterus or vagina: it consists of an almost continuous expulsive pain, referable to the uterus or rectum, and it has been known so to affect the patient as to cause death by exhaustion.

*Treatment.*—The ordinary means for arresting hæmorrhage should be first tried, including the plug. No other treatment can be carried out if the greater portion of the tumour is in the substance of the uterus; but if it is pedunculated, we may as a last resource decide upon operative interference. It is as well, if we can, to defer the operation for a few weeks, as there is considerable danger attending the removal of a polypus immediately after delivery, in consequence of its being larger and more vascular, and because the uterus at that time is liable to phlebitic inflammation. The polypus will be most safely removed by the *écraseur* (Braxton Hicks'). Excision and torsion are justifiable only when the pedicle is very thin.

*Illustrative Case :*

"On January 2, 1840, at 2.15 a.m., I was sent for to Mrs. A., Finsbury. I found the os uteri almost entirely dilated, the face presenting towards the left sacro-iliae synaphysis. I immediately ruptured the membranes, and the child was born in twenty minutes. The uterus contracted strongly, but it remained high and large, and the placenta did not descend. As a copious gush of blood took place in fifteen minutes after the child's birth, I introduced my hand into the uterus for the purpose of removing the placenta, which was very large and extensively adherent, and strewn all over the maternal surface with small granules and spiculæ of bone. While in the act of separating it, I was sensible of the presence of a large fibroid tumour, which was imbedded in the posterior part of the body of the uterus. On the removal of my hand with the placenta, the organ contracted, but it relaxed again and it continued contracting and relaxing alternately for two hours. For the first half-hour she flooded violently, but under pressure, the application of cold, and the introduction of the hand a second time, the hæmorrhage abated and at last ceased. I again felt the tumour distinctly when my hand was in the cavity a second time. On squeezing the organ externally by the hand, some small irregularities could be easily felt, which no doubt were lesser tumours of the same kind. I did not think it safe to leave her for three hours, for it seemed to me that the presence of the tumour prevented the perfect closure of the uterine cavity, as it projected so far

inwards. I attended this lady with her previous child in July, 1838, and she then flooded considerably after the placenta had passed, but, as I did not then introduce my hand, I was not aware there was any organic change. She left my neighbourhood and I lost sight of her."\*

\* "Clinical Midwifery," by Dr. Ramsbotham : *Medical Times and Gazette*, September 5, 1863.

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## CHAPTER VIII.

## THE AFTER-TREATMENT.

I NOW arrive at the consideration of a very important part of the subject of post-partum hæmorrhage—viz., the management of a patient after the flooding has been arrested. The chief points to be attended to are:—

1. *To Prevent a Repetition of the Flooding.*—

After the flooding has to all appearance ceased, the uterus should be still kept under command by the hand for at least half an hour, and an ocular examination ought to be made every now and then, to see whether there is any return of the hæmorrhage. If, during that time, the uterus has remained well contracted, and there has been no loss of blood, or merely a slight draining occurring at long intervals and of

short duration, the patient may, except in a few instances, be placed comfortably in bed. Obstetric writers usually advise that a woman after flooding should not be moved for ten or twelve hours. In some cases, where the patient is in a precarious state from the loss of blood, it will not be safe to disturb her for several hours. If the patient has been confined in her stays, and morning dress, with the mattress turned up, it will be also advisable not to move her for a considerable time, as taking off the various articles of clothing, putting on clean night-things, and dragging or half carrying her over the mattress into bed, may bring on a fresh attack of hæmorrhage. In all other instances, however, the patient may with safety and advantage be placed in bed from half an hour to an hour after the cessation of the flooding. I feel convinced that allowing women after flooding to lie with their hips surrounded with clothes soaking wet is fraught with considerable danger. Not only are the

clothes wet and uncomfortable, but long before twelve hours have elapsed they become offensive. When the patient is confined, dressed in the manner I have recommended, with a clean night-dress and chemise well drawn up round the waist, and the lower part of the body enveloped in one or two skirts, the patient may be put to bed with very little disturbance. The wet things have merely to be drawn away and the clean clothes to be drawn down. The plan usually followed by the upper class, of being confined in their night-clothes, is not so safe; the wet night-dress has to be taken off and a fresh one put on, which entails a good deal of exertion. In flooding cases, the surgeon should himself assist in getting the patient into bed. She should not be allowed to do anything herself; everything should be done for her. The only movement the patient will have to make is to raise the hips slightly, while the wet things are being drawn away, and the clean things

drawn down. She should be placed on her left side, unless from some reason or other she cannot lie on that side. Dr. Tyler Smith states that he has noticed there is less tendency to fainting in that position than in any other. I have also noticed that myself, and, for that reason, I prefer keeping a woman, who has flooded, on the side for some hours rather than on the back. A broad bandage should next be passed under the patient's hips and drawn tightly, and pinned on the right side, after having first placed over the uterus two folded napkins, or, what is better, a roll of napkins round the uterus, as already described in the preventive treatment. Not more than one pillow should be placed under the patient's head; excitement of every kind ought to be avoided as much as possible, such as talking, noise, &c. The room should be kept at a moderate temperature, and dark. Food or drink at first must be taken cold, afterwards tepid. If the bladder is at all full, the catheter



should be used, as the removal of the urine not only allows the uterus to contract well, but it saves the patient the necessity of exerting herself for several hours to pass water.

2. *To keep the patient alive.*—Both while the flooding is going on, and after it has ceased, it is requisite to give brandy neat or diluted with cold water, whenever the patient shows any signs of fainting or great depression. It is wonderful what a large amount of spirit women can imbibe without exhibiting the ordinary effects, and it may be hailed as an excellent symptom, when they show signs of being under its influence, such as talking and praying incoherently. The brandy should not be given up immediately that the faintings cease and reaction is brought about; but it ought to be continued for twenty-four hours or so in table-spoonful doses with the same quantity of water every three or four hours. Some medical men recommend large doses of opium to rally the patient instead of brandy.

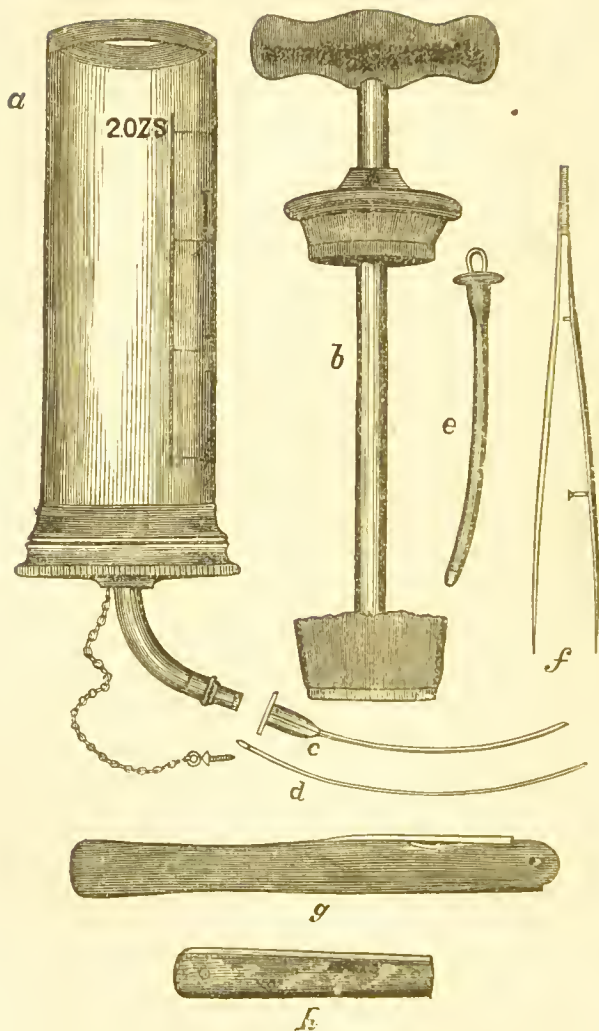
Dr. Gunning Bedford, of New York, advises a tea-spoonful of laudanum to be given every fifteen minutes, until reaction sets in. I should certainly be afraid to use such doses myself, and have always found the effects of brandy-and-water quite satisfactory. There are instances, however, in which the loss of blood has been so great, that no amount of brandy will prevent the patient from sinking, and in such cases we have to resort to the operation of transfusion.\*

The operation of transfusion consists of the injection of blood, obtained from the vein of one person into that of another, who is threatened with death from loss of blood. Transfusion will never become common, because its sphere of action is very limited. It is, however, in suitable cases, a life-saving agent of the highest value, as is

\* "After floodings, women sometimes die in a moment, but more frequently die in a gradual manner; and over the victim death shakes his dart, and to you she stretches out her helpless hands for that assistance which you cannot give, unless by transfusion. I have seen a woman dying for two or three hours together, convinced in my own mind that no known remedy could save her; the sight of these moving cases first led me to transfusion."—*Blundell*.



FIG. I.



The contents of Dr. Graily Hewitt's "Transfusion Case" (made by Whicker and Blaise) are here represented half the actual size. The syringe (a) holds two ounces; (b) the piston; (c) cannula, and (d) its plug; (e) reserve cannula; (f) pair of forceps; (g) scalpel; (h) lancet.

clearly shown by the cases recorded in the medical journals from the time of Blundell to the present day, and by the statistieal eolleetion of Professor Martin, of Berlin. The operation should only be undertaken when the symptoms are such, that without its application a fatal result may reasonably be expected, and it is not applicable unless the hæmorrhage has ceased.

Various instruments have been invented for the purpose of injeeting the blood. The apparatus, which seems to me to be far the best, both in simplicity of construction and of application, is that which has been lately devised by Dr. Graily Hewitt. (Fig. I.) The first woodcut represents the whole of the appliances belonging to the original apparatus. The second shows the alterations which I have had made in the instrument.

The following direetions for the performanee of the operation, with the exeepetion of 6 and 7, which have been neessarily modified, to suit

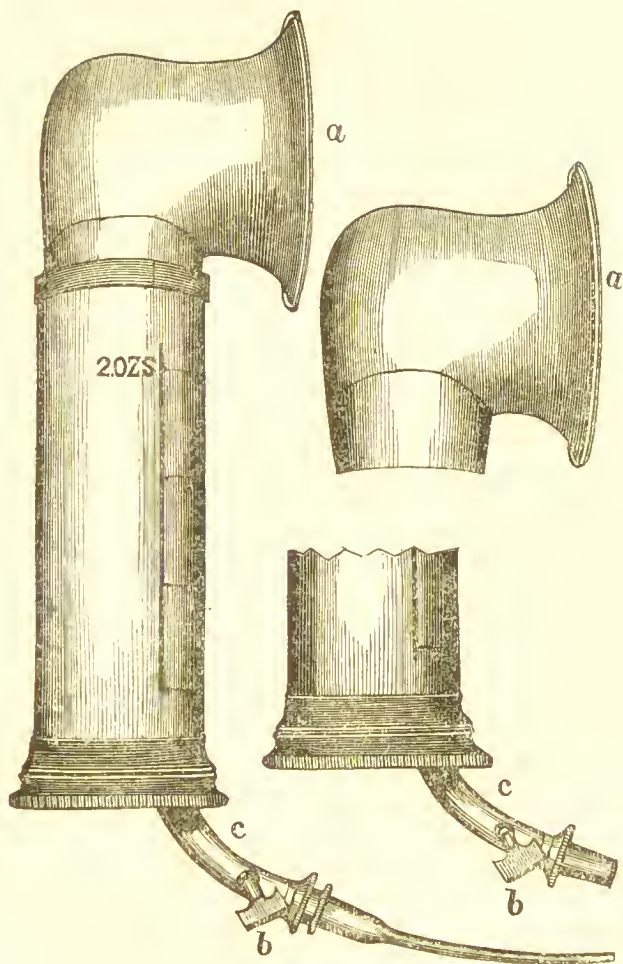
the instrument in its present form, are taken from a very exhaustive paper on the subject of transfusion by Dr. Graily Hewitt, in the *British Medical Journal*, August 29, 1863.

*Requirements for the Operation.*—1. An individual to supply the blood. 2. An assistant to hold the arm of the recipient steady. Also a second assistant, to manage the arm of the individual supplying the blood. The second assistant may possibly, in some cases, be dispensed with. 3. The transfusion-case containing a syringe, funnel (Fig. II.), two canulas with plugs, scalpel, forceps, and lancet. There will be also required a basin, warm water, and a handkerchief to bind the arm in the operation of venesection.

*Directions for the Performance of the Operation.*

1. Arrange all the steps of the operation from first to last. The operation should not

FIG. II.



The funnel (*a*) is an addition. The stopcock (*b*) has been substituted for the stopper (Fig. I). The escape-pipe (*c*) has been removed from the centre, and brought as near to the margin as possible. The Transfusion Case, with these alterations, can be obtained from Messrs. Salt and Son, Bull Street, Birmingham.





be commenced until every detail has been thoroughly considered, and provision made for the different steps to succeed each other rapidly.

2. See that all parts of the apparatus are in order. The syringes to be washed with a little warm water. The piston then to be taken out; and the whole apparatus, together with the cannulas, placed in a basin of clean warm water, ready for use.

3. Select a vein in the arm of the patient, either the median basilic, the median cephalic, or the cephalic vein; make an incision one inch and a half long, which will freely expose one inch of the vein. For a more limited space—*e. g.* a quarter of an inch—the whole circumference of the vein should be exposed; so that, if considered necessary, a probe or a piece of thread may be passed beneath it.

4. Make a puncture with the scalpel at the middle of the exposed part of the vein, large enough to allow the cannula to be inserted.

Insert one cannula, and withdraw the plug, taking care that the cannula is actually in the vein (this first cannula is not to be used for the passage of the blood.)

5. The arm so operated upon, is next to be given into the charge of an assistant, with instructions to prevent the escape of the cannula from the vein.

6. The next step is to obtain the supply of blood. Before doing so, however, instructions to be given to the second assistant, as to what is to be done, after the first supply is obtained ; otherwise time will be lost in a subsequent stage of the operation. The vein to be opened by a large incision, so that a full stream of blood may be obtained. The glass syringe, without the piston and with the funnel appended, (Fig. II *a.*) and the stopcock (Fig. II *b.*) open, is to be held close to the arm, *horizontally* ; the escape-pipe, with the reserve cannula attached, directed upwards to prevent the risk of blood flowing away.

When about half full, the stopcock to be closed, the syringe to be held vertically, the funnel to be removed and the piston inserted.

7. Open the stopcock, and allowing a little blood to escape, without further delay insert the cannula attached to the syringe, into the vein of the patient, in the place of the first cannula.

8. Inject the blood, keeping the syringe in a nearly perpendicular position. The injection should be made slowly. If the cannula become blocked, withdraw it and insert the other, freshly dipped in warm water, and cleaned.

9. If more blood be required, leave the cannula in the vein, while the same process is gone over again. (*Direction 1.*)

10. It is very essential to take precautions for preventing delay in the different steps of the operation. Delays usually involve loss of blood, the blood becoming coagulated and unfit for injection. The fainting of the individual giving the blood, has frequently prevented a

second supply from being obtained ; and the loss of the first supply is, therefore, by all means to be avoided, if possible. The water used, to be about 95 or 100° Fahr.

The two chief dangers connected with the operation are, the injection of air into the circulation, and the too rapid injection of the blood. By either means the life of the patient may suddenly be taken away, and they must be avoided. From two to twelve ounces of blood may be injected. Four ounces would probably be sufficient in most cases ; but the actual amount to be injected will depend very much on the effect produced.

3. *To prevent uterine inflammation.*—Women, after severe floodings, are very liable to uterine inflammation, and disorders proceeding therefrom. The proneness may be attributable to many causes: the free application of cold ; the patient being kept with the lower portion of her body soaking wet for many hours ; the extraction of the adherent placenta by the hand ; offensive

discharges arising from the decomposition of small portions of the placenta, membranes, or clots in the uterus; the severe manipulation of the uterus externally; and the low state of the patient, which makes her liable to pyæmic diseases.

If the uterus remains tender for the first three days after labour, a large linseed-meal poultice should then be placed over the *whole* surface of the abdomen. The only exception I make to this is, when there is a somewhat free sanguineous discharge. In most cases, after the flooding has been arrested, the sanguineous flow soon ceases, and the lochial discharge comes on unusually early. The poultice should be changed every eight hours. If the discharge is offensive, the vagina must be syringed out once, twice, or three times daily, according to the degree of offensiveness, and the amount of discharge. I generally order simple water to be used; others recommend the addition of balm. In a few

cases where the discharge has been unusually offensive, I have added a small quantity of a solution of chlorinated soda to the injection. If the case presents any bad symptoms, the medical man ought to syringe the vagina out himself, and not leave it to the nurse.

4. *To Prevent, or Mitigate Hæmorrhagic Fever.*  
—In two or three days, unless the case has been treated properly from the commencement, symptoms of reaction will generally set in. There is great thirst; the mouth is dry, and the tongue slightly furred; the patient cannot bear any light or noise; she cannot get any sleep, and if she does, she is troubled with bad dreams, and is constantly waking up in fright; the pulse is quick and jerking; there is great and distressing headache; and the patient complains of noises in the head of various kinds. The most common and characteristic sound is that to which Dr. Francis Ramsbotham alludes, when he says the patient likens it to the “thumping

of a small hammer within the skull, or the ticking of a clock." In a few cases reaction is so severe that delirium is present.

It is satisfactory to know that by proper treatment most of these annoying symptoms may be entirely avoided, or, at all events, very much mitigated. Hæmorrhagic fever, as it is called, ought to be quite an exceptional occurrence. Part of the treatment I have already mentioned, such as keeping the room quiet and dark, and not allowing the patient to speak, except she wants anything. The baby, if it cries much, should be kept in another room. The following prescription should be ordered as soon as possible after the cessation of the flooding, and the patient ought at once to take two table-spoonfuls every three hours for the first three doses, and then every four hours; this mixture must be continued for several days, until all chance of the distressing symptoms coming on is past:—

R. Ammon. carb., grs. 20 ;  
Spts. chloroform, fl. drm. j ;  
Ext. opii liquid., fl. drm. j ;  
Aq. camph., fl. oz. vj.

If the hæmorrhagic fever should set in, the treatment is the same. No lowering remedies must be used. Some practitioners have mistaken the symptoms for an affection of the brain, and have bled the patient, as if she had not lost already too much. If the headache be very bad, cloths soaked in vinegar and water, and applied to the front part of the head, will give great relief.

5. *To restore the patient, as far as possible, to that state of health and strength, which she enjoyed previous to the loss of blood.*—The diet, after flooding, should consist for the first three or four days of *fluid and nourishing* food. I keep a patient, after flooding, for the first few days entirely on *beef-tea* as strong as it can be made, unless she particularly asks for anything else; and afterwards I allow her to have her ordinary



diet, giving preference, of course, to the most digestible meats. If the patient is very thirsty, she may drink simple water, in which a certain quantity of chlorate of potash has been dissolved—a drachm of the salt to a pint of water in twenty-four hours; otherwise she may drink weak port wine-and-water. On the fourth day the bowels should be relieved if necessary, either by castor oil, compound rhubarb pills, or an enema, according to the strength of the patient. An enema is least likely to depress, and, therefore, should be used in severe cases in preference to purgatives. It is hardly necessary to say that, when the bowels are moved, the patient must not be allowed to sit up, but a bed-slipper should be put under her.

The patient may suckle the infant, if she is not in too weak a state, but, if subsequently her progress is not satisfactory, the child had better be weaned. After the fifth or sixth day, the following mixture may be administered in the

place of the stimulant and sedative medicine :

Ferri et Ammon. citrat., grs. 40 ;

Spt. chloroformi, fl. drm. j., min. xx.;

Aquæ, ad. fl. oz viij.

M. Cap. coch. ij. mag. quaque quarta hora ;

and this should be continued for several weeks.

As soon as the patient is able, and if she can afford it, she should be sent into the country or to the seaside ; and nourishing diet, with a daily allowance of stout, chalybeate medicines, and fresh air, will complete the convalescence. The pallor of countenance remains generally a long time, as a painful reminder to the patient and her friends of the nature of the complication which had endangered her life.

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#### ERRATA.

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Page 41, line one, instead of "confined with them," read "confined within them."

Page 80, line eight, instead of "pubis," read "pubes."

Page 116, line four, instead of "depression might have followed," read "depression would have followed."

Page 172, last line, instead of "feel such a load there," read "I feel such a load there."

Page 219, line five, instead of "synaphysis," read "symphysis."





